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THE

MISCELLANEOUS DOCUMENTS

OF THE

HOUSE OF REPRESENTATIVES

FOR THE

FIRST SESSION OF THE FIFTY-SECOND CONGRESS,

1891-'92.

IN FIFTY-THREE VOLUMES.

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INDEX TO HOUSE MISCELLANEOUS DOCUMENTS.

CONTENTS OF THE VOLUMES.

Vol. 1..Nos. 1 to 335 inclusive, except Nos. 11 to 26, 48, 50, 60, 77, 107, 141, 153, 154, 233, 234, 256, 258, 261, 295, 296, 320, and 334.
Vol. 2..No. 11.
Vol. 3..No. 12.
Vol. 4..No. 13, part 1.
Vol. 5..N. 13, part 2.
Vol. 6..No. 13, part 3.
Vol. 7..No. 13, part 4.
Vol. 8..No. 14, part 1.
Vol. 9..No. 14, part 2.
Vol. 10..No. 15, part 1.
Vol. 11..No. 15, part 2.
Vol. 12..No. 15, part 3.
Vol. 13..No. 16, part 1.
Vol. 14..No. 16, part 2.
Vol. 15..Nos. 17 and 18.
Vol. 16..Nos. 19 and 20.
Vol. 17..Nos. 21 and 22.
Vol. 18..No. 23.
Vol. 19..No. 24.
Vol. 20..Nos. 25 and 336.
Vol. 21..No. 26.
Vol. 22..No. 48, part 1.
Vol. 23..No. 48, part 2.
Vol. 24..No. 48, part 3.
Vol. 25..No. 48, part 4.
Vol. 26..No. 48, part 5.
Vol. 27..No. 50, part 1.
Vol. 28..No. 50, part 2.
Vol. 29..No. 60.
Vol. 30..No. 77.
Vol. 31..No. 107.
Vol. 32..Nos. 141, 234, and 320.
Vol. 33..No. 153.
Vol. 34..No. 154.
Vol. 35..No. 233, part 1.
Vol. 36..No. 233, part 2.
Vol. 37..No. 233, part 3.
Vol. 38..No. 256.
Vol. 39..No. 258.
Vol. 40..No261.
Vol. 41..No. 295.
Vol. 42..No. 296.
Vol. 43..No. 334, part 1.
Vol. 44..No. 334, part 2.
Vol. 45..No. 337.
Vol. 46..No. 338, part 1.
Vol. 47..No. 338, part 2.
Vol. 48..No. 338, part 3.
Vol. 49..No. 339.
Vol. 50..No. 340.
Vol. 51..No. 341.
Vol. 52..No. 342.
Vol. 53..No. 343.

Subject.	No.	Vol.
Abernathy, I. T., estate of, report of Court of Claims	200	1
Agriculture, resolution for Committee on Agriculture to report effect of tariff on	73	1
Alabama, resolution to investigate violation of civil-service law in	304	1
Albes, Conrad H., and E. August, referred to Court of Claims	158	1
Allen, Darling, report of Court of Claims	46	1
Allen, L. D., referred to Court of Claims	118	1
report of Court of Claims	192	1
Allen, Martha A., administratrix, referred to Court of Claims	116	1
Alexander, Malinda, referred to Court of Claims	158	1
Anacostia and Potomac River Railroad Company, annual report of	221	1
Anderson, A. E., referred to Court of Claims	119	1
Anderson, David B., report of Court of Claims	45	1
Anderson, James C. (estate of) referred to Court of Claims	214	1
Anderson, Mary H., widow of Hiram, referred to Court of Claims	224	1
Anderson, Mary S., report of Court of Claims	61	1
Andes, Abraham, referred to Court of Claims	139	1
Applewhite, A. M., administrator, report of Court of Claims	105	1
Armelin, Charles, estate of, referred to Court of Claims	150	1
Armistead, Vincent, referred to Court of Claims	210	1
Ash, John, report of Court of Claims	72	1
Astronomical observations, report for 1887	11	2
Atlanta, Ga., St. Phillip's Church, referred to Court of Claims	129	1
Attorney-General: Resolution of request for information relative to prosecution of the sugar trust	215	1
Avery, John, estate of, referred to Court of Claims	209	1
Ayres, Asa B., referred to Court of Claims	225	1
Badeaux, Ulger V., referred to Court of Claims	40	1
Badley, Nannie A., administratrix, report of Court of Claims	30	1
Bailey, John C., report of Court of Claims	33	1
Baker, Sarah K. L., report of Court of Claims	79	1
Balmer, Charles, report of Court of Claims		1
Baltimore, Md., resolution to investigate civil-service violations at	289	1
Balzer, Gustavus A., report of Court of Claims	308	1
Bancroft, Charlotte C., estate of, report of Court of Claims	40	1
Banks, Charles, referred to Court of Claims	180	1
Barnum, Thomas, report of Court of Claims	298	1
Barker, L. A., estate of, report of Court of Claims	257	1

279085

Subject.	No.	Vol.
Bass, Giles W., referred to Court of Claims	120	1
Bates, J. K., estate of, report of Court of Claims	252	1
Baudry, Omer, referred to Court of Claims	236	1
Baugh, William, referred to Court of Claims	210	1
Baynard, Joseph S., referred to Court of Claims	299	1
Beard, I. B., referred to Court of Claims	84	1
Beck, John, report of Court of Claims	72	1
Beckham, William R., referred to Court of Claims	210	1
Beeler, David, report of Court of Claims	314	1
Beezley, Charles F., administrator, report of Court of Claims	265	1
Belcher, D. P., report of Court of Claims	92	1
Bell, Josiah L., referred to Court of Claims	239	1
Bell, Mary A., referred to Court of Claims	129	1
Bennett, Jesse, referred to Court of Claims	158	1
Betsey (schooner), report of Court of Claims	167	1
Bibb, E. C., report of Court of Claims	100	1
Biggers, R. P., estate of, report of Court of Claims	253	1
Biggers, S. E., administrator, report of Court of Claims	253	1
Billingslea, Walter R., referred to Court of Claims	119	1
Birchett, William G., referred to Court of Claims	303	1
Bishop, Clarissa, referred to Court of Claims	225	1
Black, Joseph, referred to Court of Claims	151	1
Black, L. E., referred to Court of Claims	214	1
Blackford, William T., report of Court of Claims	173	1
Blackistone, R. P., referred to Court of Claims	223	1
Blasdell, Cobb & Co., referred to Court of Claims	91	1
Bloom, Henrietta Y., referred to Court of Claims	151	1
Blosser, Joseph, referred to Court of Claims	139	1
Bolling, Rebecca L., administratrix, report of Court of Claims	40	1
Booth, M. A., referred to Court of Claims	128	1
Botto, Luigi, report of Court of Claims	323	1
Bourke, Capt. John G., U. S. Army, referred to Court of Claims	189	1
Bowling, John, heirs of, referred to Court of Claims	260	1
Bradford, Samuel, estate of, referred to Court of Claims	158	1
Branch, Jesse L., referred to Court of Claims	216	1
Brandt, Jesse L., referred to Court of Claims	211	1
Breaux, Pierre, referred to Court of Claims	150	1
Brewer, Elvy, referred to Court of Claims	126	1
Briant, Mrs. E. H., referred to Court of Claims	150	1
Bridges, Sarah E., referred to Court of Claims	130	1
Brown, A. M., referred to Court of Claims	216	1
Brown, Florence A., administratrix, referred to Court of Claims	170	1
Brown, S. W., report of Court of Claims	132	1
Brown, Susan, report of Court of Claims	72	1
Brown, Thomas, referred to Court of Claims	120	1
Brown, Thomas J., referred to Court of Claims	176	1
Bruen, John T., report of Court of Claims	160	1
Buckey, Mary E., referred to Court of Claims	136	1
Buckholder, Martin, administrator, referred to Court of Claims	139	1
Bureau of Ethnology, seventh annual report of	107	31
eighth annual report of	295	41
Bureau of Labor, statement of expenditures by Commissioner of, for fiscal year 1891	27	1
Burke, Hannah, referred to Court of Claims	303	1
Burton, Sarah, report of Court of Claims	306	1
Butler, Philip T., referred to Court of Claims	140	1
Butt, William, referred to Court of Claims	158	1
California, resolution to investigate relative to forest reservations in	333	1
Caldwell, C. C., referred to Court of Claims	246	1
Caldwell, John R., referred to Court of Claims	120	1
Calliope (brig), report of Court of Claims	187	1
Campbell, J. M., referred to Court of Claims	211	1

Subject.	No.	Vol.
Cannon, Jane W., report of Court of Claims	40	1
Capers, Francis T., referred to Court of Claims	299	1
Capital, North O, and South Washington Railway Company, annual report of	54	1
Carl, David and Barbette, referred to Court of Claims	236	1
Caroline (brig), report of Court of Claims	177	1
Carothers, Hugh, report of Court of Claims	40	1
Carpenter, George, referred to Court of Claims	120	1
Carpenter, S. L., report of Court of Claims	285	1
Carr, Rogers & Co., referred to Court of Claims	146	1
Carr, William A., report of Court of Claims	36	1
Carter, Alfred B., referred to Court of Claims	82	1
Carter, Thomas, report of Court of Claims	159	1
Cash, B. F., estate of, report of Court of Claims	191	1
Cate, H. T., report of Court of Claims	272	1
Cattle on Cherokee lands, resolution to investigate	331	1
Census, final reports of the Eleventh	340	50
Census Bureau, resolution relative to a permanent	184	1
resolution to investigate workings of	194 328	1 1
Charlotte (scow), report of Court of Claims	229	1
Chavis, Preston, report of Court of Claims	46	1
Cheairs, Calvin, report of Court of Claims	249	1
Cheek, Mrs. Nelson, referred to Court of Claims	140	1
Cheek, R. T., referred to Court of Claims	118	1
Cherokee lands, resolution relative to grazing of cattle on, in violation of law	331	1
Chester, Lester P., referred to Court of Claims	220	1
Choctaw and Chickasaw Indians, resolution relative to payment for their interest in certain reservations	275	1
Christy, John, & Co., referred to Court of Claims	91	1
Chum, A. B., referred to Court of Claims	121	1
Civil service, resolutions to investigate violations of: Alabama	304	1
Baltimore	289	1
Civil Service Commission, response of, to resolution	270	1
Claims:		
private, report of Clerk of the House on indexes of	31	1
List of dismissed, by Court of Claims under Bowman act	276	1
List of judgments for, rendered in district and circuits courts	243	1
Clara Bell (steamer), referred to Court of Claims	201	1
Clark, J. A., report of Court of Claims	101	1
Clark, M. S., report of Court of Claims	313	1
Clement, C. R., report of Court of Claims	156	1
Clerk of the House of Representatives:		
Annual statement of expenditures from office, and payments to employés	4	1
Annual report on property in possession of	9	1
Report of, relative to completion of indexes of private claims	31	1
Letter of, transmitting list of contested-election cases	32	1
Letter of, relative to payments to session employés after July 6	327	1
Report on condition of contingent fund	161	1
Cleveland, Elizabeth J., referred to Court of Claims	216	1
Cobb, J. & O. P., & Co., referred to Court of Claims	91	1
Colbert County, Ala., La Grange College and Lafayette Female Seminary of	120	1
Cole, John S., administrator, report of Court of Claims	69	1
Cole, Mrs. S. M., referred to Court of Claims	138	1
Collard, Thaddeus, report of Court of Claims	42	1
Collier, William R., report of Court of Claims	185	1
Collins, Joseph, referred to Court of Claims	151	1
Columbian Exposition. (*See* World's Columbian Exposition)	68	1
Commissioner of Freedmen's Saving and Trust Company, annual report of	29	1

Subject.	No.	Vol.
Commissioner of Labor, letter of, with statement of expenditures in the Bureau of Labor for 1891	27	1
Committee on Accounts, resolution to designate committees to have clerks	39	1
Committees of the House, resolution for Committee on Accounts to designate clerks to	39	1
List of standing and select	2	1
Confidence (sloop), report of Court of Claims	203	1
Connell, Michael, referred to Court of Claims	140	1
Contingent fund. (*See* House of Representatives.)		
Consular reports:		
Vol. 35, Nos. 124-127	17	15
Vol. 36, Nos. 128-131	18	15
Vol. 37, Nos. 132-135	154	34
Vol. 38, Nos. 136-139	258	39
Vol. 39, Nos. 140-143	339	49
special report on refrigerators and food preservation in foreign countries	19	16
special report on streets and highways in foreign countries	20	16
special report on coal and coal consumption in South America	153	33
Contested elections, letter from Clerk of the House of Representatives transmitting list of cases	32	1
Cook, Jared R., referred to Court of Claims	119	1
Cooner, Mary A., referred to Court of Claims	158	1
Cordell, Lucy, report of Court of Claims	277	1
Cordill, Joseph, referred to Court of Claims	148	1
Coulson, H. H., report of Court of Claims	250	1
Court of Claims, response of, to House resolution	271	1
Courts of the United States, resolution to investigate illegal, etc., practices in connection with	329	1
Cowdon, J., memorial of, relative to Mississippi River Commission	188	1
Crabill, Joseph D., referred to Court of Claims	139	1
Crampton, Richard, referred to Court of Claims	158	1
Crampton, S. W., report of Court of Claims	316	1
Crenshaw, A. B., report of Court of Claims	58	1
Crews, Hamilton, referred to Court of Claims	89	1
Crews, William, report of Court of Claims	243	1
Crosby, William, referred to Court of Claims	138	1
Cross, Joel, referred to Court of Claims	129	1
Crow, William, referred to Court of Claims	127	1
Crum, B. L., estate of, referred to Court of Claims	116	1
Crum, Elizabeth, estate of, referred to Court of Claims	116	1
Culkin, Thomas, estate of, report of Court of Claims	293	1
Cummings, Phœbe, referred to Court of Claims	119	1
Cunningham, Rachel, referred to Court of Claims	158	1
Dalton, Mary V., administratrix, report of Court of Claims	235	1
Dasly, F. O., estate of, referred to Court of Claims	150	1
Davidson, Sarah A., report of Court of Claims	286	1
Davis, A. W., referred to Court of Claims	117	1
Davis, Alexander, report of Court of Claims	35	1
Davis, George W., report of the Court of Claims	242	1
Davis, Mrs. M. M., referred to Court of Claims	119	1
Davis, Marshall, referred to Court of Claims	118	1
De Bevoise, S. H., referred to Court of Claims	209	1
Debnam, Thomas R., referred to Court of Claims	130	1
Deems, Lewis, referred to Court of Claims	169	1
Deitrich, Emily, referred to Court of Claims	217	1
Delahoussaye, Sidonie, referred to Court of Claims	224	1
Delille, Jean, referred to Court of Claims	217	1
De Loach Claiborne, estate of, referred to Court of Claims	209	1
Dennis, Mary A., referred to Court of Claims	151	1
Dent, Warren R., referred to Court of Claims	86	1
Deslonde, Mrs. Frank, referred to Court of Claims	224	1
Desmane, Alphonse, referred to Court of Claims	225	1

Subject.	No.	Vol.
Deucatte, Odon, referred to Court of Claims	151	1
Dickens, Edward V., report of Court of Claims	40	1
Dickson, Emily C., referred to Court of Claims	158	1
Dieters, John, report of Court of Claims	326	1
District of Columbia, letter relative to electric lighting of Massachusetts avenue and Seventeenth street	62	1
Dixon, George O., report of Court of Claims	51	1
Doherty, M. A., referred to Court of Claims	119	1
Dolman, Jacob, refered to Court of Claims	139	1
Donato, Auguste, heirs of, referred to Court of Claims	83	1
Donato, Belote A., referred to Court of Claims	151	1
Doorkeeper of the House of Representatives:		
Report of sale of waste paper, etc	5	1
Report of property in possession of	8	1
Report on folding room	10	1
Dougherty, Mary A., referred to Court of Claims	118	1
Douglas, W. W., administrator, referred to Court of Claims	151	1
Dowdy, W. P., report of Court of Claims	46	1
Downey, Amelia, referred to Court of Claims	139	1
Downing, A. D., estate of, referred to Court of Claims	119	1
Doyle, Johanna, referred to Court of Claims	140	1
Duffy, Eugenia and W. B., referred to Court of Claims	148	1
Dulin, A. F., estate of, referred to Court of Claims	303	1
Dunlap, Joseph, report of Court of Claims	319	1
Duval, Sandy, referred to Court of Claims	139	1
East, Abner, report of Court of Claims	252	1
East, Washington, report of Court of Claims	222	1
Easterly, Isaac, referred to Court of Claims	216	1
Edwards, Emily, referred to Court of Claims	226	1
Edwards, W. W., referred to Court of Claims	225	1
Eight-hour law, resolution to investigate violations of	103	1
Eleventh Census, final reports of the	340	50
Elgin, J. H., report of Court of Claims	93	1
Eliza (ship), report of Court of Claims	204 255	1 1
Elliott, John R., referred to Court of Claims	236	1
Elgey, John, referred to Court of Claims	148	1
English, Valentine S., report of Court of Claims	283	1
Engs, Samuel F., referred to Court of Claims	115	1
Erquhart, C. Augusta, referred to Court of Claims	99	1
Ethnology, contributions to North American, vol. 7	26	21
Seventh Annual Report of Bureau of, 1885–'86	107	31
Eighth Annual Report of Bureau of	295	41
Eulogies on Hon. L. C. Houk	234	32
Hon. W. H. F. Lee	320	32
Ewell, Jane N., estate of, referred to Court of Claims	216	2
Faget, Emile, heirs of, referred to Court of Claims	151	1
Fairfax, John W., report of Court of Claims	145	1
Farley, John A., referred to Court of Claims	214	1
Farrell, Thomas, report of Court of Claims	132	1
Fawcett, Elkanah, report of Court of Claims	312	1
Febrey, John E., report of Court of Claims	152	1
Field, John A., referred to Court of Claims	124	1
Fish Commission, bulletins of (vol. x, 1890)	341	5
Fiske, Martha A., referred to Court of Claims	158	1
Filhiol, H., referred to Court of Claims	65	1
Flick, Catharine, referred to Court of Claims	139	1
Flowers, Elizabeth, referred to Court of Claims	130	1
Flowers, J. G., report of Court of Claims	46	1
Ford, R. L., report of Court of Claims	78	1
Forest reservations, resolution to investigate necessity of, and condition of, in California	333	1
Forgey, James, referred to Court of Claims	227	1

Subject.	No.	Vol.
Fraleix, Martin, referred to Court of Claims	129	1
Francis, Jean, sr., referred to Court of Claims	151	1
Franklin, J. B., referred to Court of Claims	211	1
Franklin, W. A., executor, report of Court of Claims	292	1
Frasuer, Eli, reference to Court of Claims	129	1
Freedman's Saving and Trust Company, annual report of commissioner of	29	1
Friendship (brig) report of Court of Claims	178 321	1 1
Friendship (schooner) report of Court of Claims	321	1
Fromberz, Leopold, report of Court of Claims	293	1
Fuller, J. B., referred to Court of Claims	118	1
Fusilier, Corrinne Perret, referred to Court of Claims	150	1
Gallagher, Charles, referred to Court of Claims	133	1
Gallagher, Dr. Thos., resolution to investigate conviction, etc., of	324	1
Gallott, Julia, referred to Court of Claims	151	1
Garrot, Pierre, referred to Court of Claims	236	1
Garett, W. F., referred to Court of Claims	216	1
Garrison, Silas M., referred to Court of Claims	158	1
Geological Survey:		
Bulletins of, 66 to 70	21	17
Bulletin of, 71	22	17
Bulletins of, 72 to 75	23	18
Bulletins of, 76 to 80	24	19
Bulletins of, 81 to 82	25	20
Bulletin of, 83	336	20
Bulletins of, 84 to 86	337	45
Monographs of, Vol. 17	60	29
Monographs of, Vol. 18	77	30
Monographs of, Vol. 19	342	52
Monographs of, Vol. 20	343	53
Georgetown Barge, Dock, Elevator and Railway Co., report of	55	1
Georgetown and Tenallytown Railway Company, letter from secretary transmitting list of stockholders of	57	1
Germania Safety, Vault and Trust Company, administrator, report of Court of Claims	182	1
Gibson, William F., report of Court of Claims	75	1
Gilbreath, Simeon, report of Court of Claims	42	1
Gilfoil, Patrick, referred to Court of Claims	148	1
Gillett, Theodore J., estate of, referred to Court of Claims	227	1
Gober, M. A., administrator, report of Court of Claims	200	1
Gomez, Edwin, referred to Court of Claims	98	1
Goodrich, A. E. and M. E., referred to Court of Claims	151	1
Gordon, R., administrator, report of Court of Claims	292	1
Gorman, George, estate of, report of Court of Claims	202	1
Gosehorn, Sarah, report of Court of Claims	63	1
Govan, J. J., referred to Court of Claims	127	1
Green, Edman, referred to Court of Claims	259	1
Green, S. E., administrator, report of Court of Claims	269	1
Greenhill, Thomas C., referred to Court of Claims	120	1
Grice, John, report of Court of Claims	74	1
Grimmett, Matthew N., referred to Court of Claims	210	1
Grisson, Sarah, referred to Court of Claims	123	1
Grow, ex-Speaker Galusha A., presentation of portrait, proceedings in House	141	1
Guidry, Lesant, heirs of, referred to Court of Claims	150	1
Gullory, Martin, referred to Court of Claims	151	1
Gunnell, Elizabeth, report of Court of Claims	74	1
Haigh, A. V., referred to Court of Claims	176	1
Haller, Jonathan, referred to Court of Claims	139	1
Hamilton, Elyisa, report of Court of Claims	40	1
Hammon, Jacob, referred to Court of Claims	139	1
Hancock, John W., report of Court of Claims	280	1
Hannah (schooner), report of Court of Claims	203	1

Subject.	No.	Vol.
Harding, Francis E., referred to Court of Claims	224	1
Hardman, J. B., report of Court of Claims	252	1
Hardwick, F. E., report of Court of Claims	144	1
Harvey, A. A., guardian, report of Court of Claims	200	1
Harvill, Mrs. L. J., referred to Court of Claims	121	1
Hathaway, John R., referred to Court of Claims	134	1
Hayes, Samuel, referred to Court of Claims	211	1
Hayman, Harry, report of Court of Claims	274	1
Haywood, Mrs. W. Dallas, referred to Court of Claims	130	1
Heard, James A., referred to Court of Claims	120	1
Hearrell, L. B., report of Court of Claims	49	1
Heberlein, August, estate of, referred to Court of Claims	219	1
Hebron, Adeline L., estate of, referred to Court of Claims	119	1
Henkel, Philip, referred to Court of Claims	198	1
Henry (schooner), report of Court of Claims	203	1
Henry (ship), report of Court of Claims	264	1
Herbert, S. B., report of Court of Claims	164	1
Hetty Jane (ship), report of Court of Claims	297	1
Hickman, M. T., referred to Court of Claims	217	1
Higgins, Richard, estate of, referred to Court of Claims	127	1
Hill, Alexander, referred to Court of Claims	151	1
Hill, Joseph A., referred to Court of Claims	128	1
Hiram (brig), report of Court of Claims	273	1
Hitty (ship), report of Court of Claims	247	1
Hobbs, Thomas, referred to Court of Claims	303	1
Holbrook, Julia, referred to Court of Claims	128	1
Holland, James L., estate of, referred to Court of Claims	210	1
Holsten Female College, referred to Court of Claims	211	1
Holt, C. G., administrator of, referred to Court of Claims	130	1
Holt, John M., referred to Court of Claims	216	1
Homestead, Pa.:		
Resolution relative to employment of Pinkerton detectives at	310	1
Evidence taken, in investigating labor troubles at	335	1
Hooper, William, estate of, referred to Court of Claims	66	1
Hoover, Benjamin, referred to Court of Claims	139	1
Hoover, James C., referred to Court of Claims	216	1
Hopper, W. A., administrator of, referred to Court of Claims	119	1
Hough, John H., report of Court of Claims	286	1
Hough, Robert, report of Court of Claims	286	1
Houk, Hon. L. C., eulogies on	234	32
House of Representatives:		
List of members by States	1	1
List of select and standing committees	2	1
List of members and the committees on which they serve	3	1
Report on resolution for Committee on Accounts to designate clerks for committees of	39	1
Rules of	67	1
Report of Clerk on condition of contingent fund	141	1
Letter from the Clerk relative to salary of session employés	327	1
Hubbard, Mary Jane, referred to Court of Claims	211	1
Hughes, William H., administrator, report of Court of Claims	38	1
Humboldt Female College, referred to Court of Claims	216	1
Hume, Isaac, referred to Court of Claims	139	1
Humphreys, J. H., report of Court of Claims	58	1
Hundley, William T., referred to Court of Claims	137	1
Hunt, Anna, administratrix, report of Court of Claims	40	1
Hunt, J. W., report of Court of Claims	222	1
Hurdle, Eunice, referred to Court of Claims	116	1
Hurdley, W. J., administrator, report of Court of Claims	252	1
Hurley, Stephen, report of Court of Claims	232	1
Idaho, resolution to investigate labor troubles in	330	1
Indian Territory, resolution to make inquiries looking to admission of, as State	325	1
Industrial Christian Home of Utah, report respecting operations of	103	1

Subject.	No.	Vol.
Izard, Florimond, referred to Court of Claims	151	1
Jane (schooner), report of Court of Claims	196	1
Jenkins, H. E., report of Court of Claims	267	1
Johnson, Joseph B., referred to Court of Claims	210	1
Jones, F. A., administrator, report of Court of Claims	292	1
Jones, Francis S., estate of, referred to Court of Claims	121	1
Jones, Isaac and Thomas C., estate of, referred to Court of Claims	118	1
Jones, John, referred to Court of Claims	210	1
Jones, Dr. John H., referred to Court of Claims	116	1
Jones, Phillip M., administrator, report of Court of Claims	253	1
Jones, Philip R., estate of, report of Court of Claims	253	1
Jordan, R. D., guardian of heirs of, referred to Court of Claims	211	1
Juliana (vessel), report of Court of Claims	281	1
Kannell, John, report of Court of Claims	58	1
Kaylor, Daniel, referred to Court of Claims	216	1
Keating, Martin, referred to Court of Claims	155	1
Keaton, B. R., report of Court of Claims	269	1
Keigan, Mary E., referred to Court of Claims	84	1
Keithley, A. L., report of Court of Claims	101	1
Keithley, W. G., report of Court of Claims	101	1
Kelly, Peter, report of Court of Claims	78	1
Kennedy, Leonora J., referred to Court of Claims	151	1
Kergon, Thomas, referred to Court of Claims	88	1
Kerr, A. C., referred to Court of Claims	126	1
Kibler, Josiah and Jeremiah, referred to Court of Claims	139	1
Kimmons, William M., referred to Court of Claims	116	1
King, Thomas J., referred to Court of Claims	158	1
Kirkpatrick, M. R., report of Court of Claims	186	1
Knight, Elizabeth, referred to Court of Claims	158	1
Knight, Joseph, referred to Court of Claims	236	1
Knight, Joseph S., report of Court of Claims	40	1
Kouns, John, referred to Court of Claims	227	1
Labell, Charles, referred to Court of Claims	126	1
Labor, resolution to investigate sweating system of tenement house	71	1
evidence taken in troubles at Homestead, Pa	335	1
Lafferty, James, referred to Court of Claims	127	1
Lafleur, Ben. M., referred to Court of Claims	151	1
Lafleur, Jean Pierre, referred to Court of Claims	151	1
Lafleur, Marcelin, referred to Court of Claims	151	1
Lake, Daniel, referred to Court of Claims	179	1
Lam, James, estate of, referred to Court of Claims	138	1
Langley, Aaron, report of the Court of Claims	240	1
Lanier, J. C., estate of, report of Court of Claims	265	1
Lanier, N. B., referred to Court of Claims	119	1
La Rue, Mrs. Mary D., referred to Court of Claims	138	1
Lastrapres, Victor, referred to Court of Claims	151	1
Lauderdale, S. Elizabeth, referred to Court of Claims	158	1
Lawhead, William, administrator, referred to Court of Claims	81	1
Lawrence, L. J., referred to Court of Claims	214	1
Lazare, Jean Baptiste, estate of, referred to Court of Claims	83	1
Leake, Mary S., report of Court of Claims	40	1
Leduff, Alexis, referred to Court of Claims	151	1
Lee, Carter R. B., administrator, report of Court of Claims	40	1
Lee, J. C., report of Court of Claims	72	1
Lee, W. H. F., eulogies on	320	32
Leeds (packet ship), report of Court of Claims	273	1
Lefoldt, Julius, referred to Court of Claims	140	1
Legg, A. C., report of Court of Claims	94	1
Leiper, John, referred to Court of Claims	216	1
Lemell, E., referred to Court of Claims	217	1
Lemelle, Charles, estate of, referred to Court of Claims	151	1
Lemelle, Leon, referred to Court of Claims	151	1
Lemelle, Ludger, estate of, referred to Court of Claims	151	1
Lemelle, Rigabert, estate of, referred to Court of Claims	151	1

Subject.	No.	Vol.
Lement, Pierre, referred to Court of Claims	151	1
Lewallen, John Preston, administrator, report of Court of Claims	40	1
Lewis, Abner D., referred to Court of Claims	127	1
Lewis, Mary F., report of Court of Claims	44	1
Lides, David, estate of, referred to Court of Claims	158	1
Lillard, B., estate of, referred to Court of Claims	213	1
Lipscomb, James C., referred to Court of Claims	207	1
Litten, Julius B., referred to Court of Claims	210	1
Logan, Mary S., referred to Court of Claims	121	1
Long, Henry W., referred to Court of Claims	126	1
Long, William R., referred to Court of Claims	158	1
Lowe, Virginia, report of Court of Claims	64	1
Lowenberg, L. M., administrator, report of Court of Claims	293	1
Lucas, E. C., report of Court of Claims	247	1
Luchman, William, referred to Court of Claims	140	1
Lutz, Morris, referred to Court of Claims	139	1
Lynch, David, report of Court of Claims	59	1
McAllister, A. J., report of Court of Claims	132	1
McClintic, William, report of Court of Claims	132	1
McCown, J. I., report of Court of Claims	46	1
McDonald, William, report of Court of Claims	80	1
McGloughlin, Virginia, referred to Court of Claims	83	1
McGuffee, sr., G. V., referred to Court of Claims	86	1
McHenry, L. S., report of Court of Claims	163	1
McKenzie, D. W., report of Court of Claims	278	1
McLaughlin, Ammon, referred to Court of Claims	227	1
McLean, Louisa E., referred to Court of Claims	211	1
McLemord, Sarah L., administratrix, referred to Court of Claims	87	1
McMurtrey, John, referred to Court of Claims	210	1
McNeill, John C., referred to Court of Claims	130	1
Madden, Patrick, report of Court of Claims	232	1
Maddox, Margaret Virginia, referred to Court of Claims	162	1
Marklein, Charles, referred to Court of Claims	106	1
Marshall, Saline County, Mo., Christian Church of, referred to Court of Claims	183	1
Martha (sloop), report of Court of Claims	195	1
Martin, Cyrus, referred to Court of Claims	[illegible]	1
Martin, Emily R., estate of, report of Court of Claims	40	1
Martin, John J., referred to Court of Claims	217	1
Mary (sloop), report of Court of Claims	203	1
Mastick, Henry, report of Court of Claims	166	1
Mathews, Harvey, administrator, report of Court of Claims	191	1
Matthews, E. S., estate of, referred to Court of Claims	116	1
Maxwell land grant, resolution relative to alleged conspiracy in connection with	311	1
Mayse, Richard, report of Court of Claims	[illegible]	1
Meaher, Timothy, administrator of, referred to Court of Claims	121	1
Meeha, Catharine Barry, referred to Court of Claims	[illegible]	1
Members of the House of Representatives:		
List of, by States	1	1
List of select and standing committees	2	1
List of, (alphabetical) and committees on which they serve	3	1
Menillion, Francis, referred to Court of Claims	[illegible]	1
Menillon, A. D., estate of, report of Court of Claims	[illegible]	1
Menillon, Alphonse, referred to Court of Claims	[illegible]	1
Menillon, Alphonse, administrator, report of Court of Claims	[illegible]	1
Menillon, Lucien, referred to Court of Claims	[illegible]	1
Mercer, Furneyfold, report of Court of Claims	[illegible]	1
Metropolitan Railroad Company, annual statement of	[illegible]	1
Middlekauff, John C., report of Court of Claims	37	1
Miles, William T., referred to Court of Claims	[illegible]	1
Miller, David, report of Court of Claims	76	1
Miller, J. F., report of Court of Claims	72	1
Miller, J. M., report of Court of Claims	[illegible]	1

Subject.	No.	Vol.
Milley, S. B., administrator, referred to Court of Claims	139	1
Mineral resources, report on	296	42
Mississippi River Commission, memorial of John Cowdon relative to	188	1
Mitchell, James A., referred to Court of Claims	126	1
Mitchell, Thomas R., and R. T., report of Court of Claims	283	1
Monahan, Mary E., referred to Court of Claims	81	1
Montgomery, Hugh, referred to Court of Claims	217	1
Montgomery, Olivia F., referred to Court of Claims	86	1
Moore, H. A., report of Court of Claims	317	1
Moore, Stativa, referred to Court of Claims	84	1
Moore, Stephen, administrator, referred to Court of Claims	66	1
Morat, F. Louis, report of Court of Claims	290	1
Morgan, Jesse B., referred to Court of Claims	158	1
Morgan, William S., referred to Court of Claims	158	1
Moseley, William, jr., referred to Court of Claims	300	1
Moyer, I. H., report of Court of Claims	305	1
Mulholland, John, Patrick, and Peter, report of Court of Claims	152	1
Mumma, H. C., report of Court of Claims	302	1
Munday, G. W., administrator, referred to Court of Claims	151	1
Murdock, William M., report of Court of Claims	40	1
Murphy, J. J., referred to Court of Claims	84	1
Murphy, James, referred to Court of Claims	119	1
Mussen, Buford, report of Court of Claims	199	1
Nancy (schooner), report of Court of Claims	167	1
Nancy (sloop), report of Court of Claims	112	1
Naval observations (1888)	256	38
Naval Observatory, report of observations from	11	2
Nazareth Literary and Benevolent Institution, report of Court of Claims	251	1
Neal, Rhoda, report of Court of Claims	248	1
Neal, W. H., estate of, referred to Court of Claims	214	1
Neck, George, sr., referred to Court of Claims	154	1
Neidlinger, C. V., report of Court of Claims	143	1
Nelson, John N., referred to Court of Claims	158	1
Nelson, Potter, report of Court of Claims	46	1
Neutrality (schooner), report of Court of Claims	321	1
Newcomer, Joshua, report of Court of Claims	266	1
Newlee, J. G., report of Court of Claims	46	1
New Orleans, La., Odd Fellows' Hall Association of, referred to Court of Claims	96	1
Newsom, Andrew J., estate of, report of Court of Claims	105	1
Nichols, Minerva J., and Frank D., executors, report of Court of Claims	34	1
Nicodemas, John and J. L., report of Court of Claims	72	1
Nixon, Henry C., referred to Court of Claims	130	1
Noland, Pearce, report of Court of Claims	268	1
Noland, William H., referred to Court of Claims	214	1
Norris, Nancy Jane, referred to Court of Claims	158	1
North American Ethnology, contributions to, vol. 7	26	21
Northrup, Charles, referred to Court of Claims	209	1
Oakley, E. C., administrator of, referred to Court of Claims	214	1
Official records of the war of the rebellion. (*See* War of the Rebellion.)		
Official Register (vol. 1), Legislative, Executive, Judicial	50	27
(vol. 2), Post-Office Department	50	28
Ogilvie, R. H., report of Court of Claims	206	1
Oglesby, L. S., referred to Court of Claims	238	1
Okolona, Miss., Independent Order of Odd Fellows of, referred to Court of Claims	118	1
Orendorff, Mary, report of Court of Claims	306	1
Orr, J. W., report of Court of Claims	307	1
Osborne, John, report of Court of Claims	332	1
O'Shea, P. T., referred to Court of Claims	119	1

Subject.	No.	Vol.
Ott, J. W., report of Court of Claims	132	1
Overton Hotel Company, referred to Court of Claims	85	1
Owens, W. B., report of Court of Claims	219	1
Paffinberger, Samuel, report of Court of Claims	294	1
Paillett, Hilliare, estate of, referred to Court of Claims	151	1
Pankey, James, report of Court of Claims	108	1
Pash, Benedict, report of Court of Claims	267	1
Parham, Richard H., administrator, report of Court of Claims	202	1
Parker, Rebecca V., referred to Court of Claims	151	1
Patterson, David K., referred to Court of Claims	118	1
Patrick, Marion, report of Court of Claims	46	1
Peeden, Martha J., administratrix, referred to Court of Claims	210	1
Pension laws, resolution to appoint members to codify, simplify, and arrange	318	1
Perry, O. H., administrator, report of Court of Claims	309	1
Peters, J. L., report of Court of Claims	95	1
Phillips, James B., referred to Court of Claims	245	1
Phœnix (schooner) report of Court of Claims	167 177	1 1
Pinkerton detectives, resolution of inquiry relative to employment of, by corporations	310	1
Pipkin, H., administrator, report of Court of Claims	291	1
Pope, Daniel S., *et al.*, referred to Court of Claims	175	1
Porche, Louis V., referred to Court of Claims	236	1
Porche, J. A., report of Court of Claims	222	1
Powell, Sarah A., referred to Court of Claims	81	1
Prichard, Catharine M., referred to Court of Claims	97	1
Private claims, report of Clerk of the House relative to indexes of	31	1
Provine, W. G., administrator, report of Court of Claims	40	1
Pulliam, F. J., report of Court of Claims	262	1
Quarles, Mary, report of Court of Claims	46	1
Rabot, Jean Baptiste, referred to Court of Claims	151	1
Randall, ex-Speaker Samuel J., presentation of portrait, proceedings in House	141	1
Randolph, A. M., referred to Court of Claims	115	1
Rosetta (brig), report of Court of Claims	204	1
Rather, James, referred to Court of Claims	216	1
Records of the War of the Rebellion:		
Atlas to	261	40
Vol. 33	12	2
Vol. 34, part 1	13	4
Vol. 34, part 2	13	5
Vol. 34, part 3	13	6
Vol. 34, part 4	13	7
Vol. 35, part 1	14	8
Vol. 35, part 2	14	9
Vol. 36, part 1	15	10
Vol. 36, part 2	15	11
Vol. 36, part 3	15	12
Vol. 37, part 1	16	13
Vol. 37, part 2	16	14
Vol. 38, part 1	48	22
Vol. 38, part 2	48	23
Vol. 38, part 3	48	24
Vol. 38, part 4	48	25
Vol. 38, part 5	48	26
Vol. 39, part 1	233	35
Vol. 39, part 2	233	36
Vol. 39, part 3	233	37
Vol. 40, part 1	338	46
Vol. 40, part 2	338	47
Vol. 40, part 3	338	48
Redwine, J. A., report of Court of Claims	235	1

Subject.	No.	Vol.
Reeves, George W., estate of, report of Court of Claims	128	1
Repley, E. W., referred to Court of Claims	151	1
Restle. Leger, referred to Court of Claims	84	1
Rhodes, Frank, report of Court of Claims	142	1
Rice, J. W., estate of, report of Court of Claims	292	1
Rice, W. H., referred to Court of Claims	120	1
Richards, Alonzo H., referred to Court of Claims	158	1
Roach, Benj., estate of, referred to Court of Claims	86	1
Robertson, Anthony, referred to Court of Claims	139	1
Robinson, Jehu, report of Court of Claims	135	1
Roe, J. A., report of Court of Claims	46	1
Romine, Mary, J., referred to Court of Claims	158	1
Roy, Vienna, referred to Court of Claims	139	1
Royston, Aaron, report of Court of Claims	287	1
Rules of House of Representatives	67	1
Rutledge, Mary J., referred to Court of Claims	158	1
Rutledge. Nancy, referred to Court of Claims	158	1
Russell, Jacob H., report of Court of Claims	230	1
St. Philips Church, Atlanta, Ga., referred to Court of Claims	129	1
Sanders, John C., administrator, referred to Court of Claims	213	1
Sanders, Samuel R., referred to Court of Claims	158	1
Sanders, W. W., referred to Court of Claims	151	1
Sanford, Martha Ann, referred to Court of Claims	127	1
Saunders, Edwin E., estate of, referred to Court of Claims	227	1
Scanlan, Mrs. W. H., referred to Court of Claims	149	1
Schwartz, A. J., administrator, report of Court of Claims	40	1
Scott, John D., referred to Court of Claims	128	1
Scott, Samuel, referred to Court of Claims	119	1
Scott, Mrs. W. A., referred to Court of Claims	214	1
Scoville, W. S., referred to Court of Claims	227	1
Sears, Rebecca, report of Court of Claims	102	1
Secretary of the Treasury, resolution requesting, to obtain and report facts relating to State canals	174	1
Sergeant-at-Arms, report of disbursements	6	1
report on property in possession of	7	1
Sessions, Franklin, referred to Court of Claims	118	1
Shacklett, H. W., report of Court of Claims	70	1
Shadel, Henry A., heirs of, referred to Court of Claims	227	1
Sheely, Mrs. Ann, referred to Court of Claims	148	1
Sheetz, Samuel, referred to Court of Claims	139	1
Shehan, Patrick, report of Court of Claims	252	1
Shepherdess (schooner), report of Court of Claims	203	1
Shipp, F. G., report of Court of Claims	101	1
Shoemaker, A. C. P., report of Court of Claims	218	1
Shoemaker, David, report of Court of Claims	125	1
Short, Hatcher and Hiram, referred to Court of Claims	114	1
Sigur, John A., referred to Court of Claims	150	1
Simerley, Mary E., referred to Court of Claims	131	1
Simmons, H. S., estate of, referred to Court of Claims	211	1
Simmons, J. W., referred to Court of Claims	128	1
Simpson, Cassa, referred to Court of Claims	210	1
Singleton, H. C., estate of, referred to Court of Claims	216	1
Sisco, Mary, administratrix, report of Court of Claims	263	1
Slate, Sarah, report of Court of Claims	222	1
Sloan, William, report of Court of Claims	46	1
Smallwood, Howard F., referred to Court of Claims	136	1
Smith, A. J., referred to Court of Claims	121	1
Smith, Dudley D., heirs of, referred to Court of Claims	227	1
Smith, G. W., report of Court of Claims	122	1
Smith, James W., referred to Court of Claims	138	1
Smith, Nancy C., referred to Court of Claims	116	1
Smith, Vasti, referred to Court of Claims	130	1

Subject.	No.	Vol.
Smithsonian Institution, statement of Secretary of, on expenditures for fiscal year of 1891	28	1
Smithsonian Reports (1891), part 1	334	43
Smithsonian Reports (1891), part 2	334	44
Snyder, James A., executor, referred to Court of Claims	138	1
Snyder, John, report of Court of Claims	193	1
Sinclair, Fannie, referred to Court of Claims	148	1
Soutter, William R., referred to Court of Claims	165	1
Sparks, D. M., estate of, referred to Court of Claims	121	1
Spates, G. W., report of Court of Claims	193	1
Speakers Grow and Randall, presentation of portraits of	141	32
Speck, David, referred to Court of Claims	138	1
Sprich, Albert H., report of Court of Claims	40	1
Standiford, David, report of Court of Claims	218	1
Starn, Levi, referred to Court of Claims	110	1
State canals, resolution requesting Secretary of the Treasury to ascertain facts	174	1
Steele, J. and J., report of Court of Claims	41	1
Stiff, Martha, referred to Court of Claims	228	1
Store, John, estate of, report of Court of Claims	69	1
Stork, Conrad, referred to Court of Claims	110	1
Stover, Abraham, referred to Court of Claims	138	1
Stowers, Samuel, report of Court of Claims	282	1
Stutts, George W., report of Court of Claims	277	1
Sugar trust, resolution requesting information of Attorney-General	215	1
Summers, Margaret, referred to Court of Claims	119	1
Sutton, S. J., report of Court of Claims	52	1
Swartz, David, referred to Court of Claims	139	1
Sweating system. *See* Labor.		
Talbott, Jacob J., referred to Court of Claims	208	1
Talley, Robert, report of Court of Claims	113	1
Tariff, resolution that Committee on Agriculture investigate effect of, on agriculture	73	1
Tatin, Jean Marie, referred to Court of Claims	151	1
Taylor, Edward H., administrator, report of Court of Claims	257	1
Taylor, George W., estate of, referred to Court of Claims	138	1
Taylor, Jane, estate of, referred to Court of Claims	303	1
Taylor, Thomas W., report of Court of Claims	251	1
Taylor, William E., referred to Court of Claims	158	1
Taylor, William H., report of Court of Claims	244	1
Telletor, E. W., referred to Court of Claims	130	1
Tenement-house labor. *See* Labor.		
Thacher, Thomas, report of Court of Claims	171	1
Thomas, A. R., report of Court of Claims	52	1
Thomas, B. R., report of Court of Claims	255	1
Thomas, Wilkin, report of Court of Claims	[illegible]	1
Thompson, George W., referred to Court of Claims	139	1
Thompson, Lewis, executor of, referred to Court of Claims	108	1
Throckmorton, Hugh W., report of Court of Claims	288	1
Thurman, J. G., report of Court of Claims	[illegible]	1
Tillman, Francis, report of Court of Claims	[illegible]	1
Timberlake, S. R., referred to Court of Claims	[illegible]	1
Tolson, John J., administrator, referred to Court of Claims	257	1
Towsend, Peter, report of Court of Claims	[illegible]	1
Traweek, Mrs. E. L., referred to Court of Claims	[illegible]	1
Tucker, E. J., report of Court of Claims	253	1
Tucker, T. M., estate of, referred to Court of Claims	[illegible]	1
Tuscumbia, Ala., Masonic Lodge of, referred to Court of Claims	[illegible]	1
Two Sisters (ship), report of Court of Claims	231	1
Underwood, John C., referred to Court of Claims	[illegible]	1
Union (sloop), report of Court of Claims	[illegible]	1
Union (vessel), report of Court of Claims	[illegible]	1
United States Geological Survey. *See* Geological Survey.		

Subject.	No.	Vol.
Unsell, David, estate of, report of Court of Claims	38	1
Utah, report of the commissioner of schools of	47	1
Letter from chairman of Utah Commission respecting operation of Industrial Christian Home Association of	104	1
Vallean, Sarah J., referred to Court of Claims	151	1
Vaughn, Walker, report of Court of Claims	132	1
Vauquah, Louis, referred to Court of Claims	83	1
Verdin, Romain, referred to Court of Claims	150	1
Vernon, A. B., report of Court of Claims	251	1
Victor (schooner), report of Court of Claims	197	1
Vignes, Polona, referred to Court of Claims	151	1
Wakefield, Molisa O., referred to Court of Claims	158	1
Walker, Julius, referred to Court of Claims	128	1
Walker, Osborn, report of Court of Claims	78	1
Walker, Sandy, report of Court of Claims	301	1
Walker, T. J., referred to Court of Claims	214	1
Wallace, Thomas, referred to Court of Claims	127	1
Walls, Joseph L., report of Court of Claims	42	1
Warr, A. V., Ex., report of Court of Claims	286	1
Washington and Arlington Railway Company, annual report of	43	1
Washington and Georgetown Railroad Company, annual report.	56	1
Wasson, Richard F., referred to Court of Claims	213	1
Watkins, Nancy J., referred to Court of Claims	120	1
Webb, T. H., report of Court of Claims	78	1
Webb, William S., referred to Court of Claims	120	1
Weitinger, John, report of Court of Claims	232	1
Welck, Benjamin, report of Court of Claims	72	1
Wells, George H., report of Court of Claims	284	1
Wells, James, heirs of, referred to Court of Claims	299	1
Wesson, J. W., report of Court of Claims	78	1
Westmoreland, Mary N., referred to Court of Claims	210	1
Whitaker, William, referred to Court of Claims	119	1
White, B. K., report of Court of Claims	74	1
White, Thomas W., referred to Court of Claims	111	1
White, W. B., report of Court of Claims	315	1
White, Zachariah J., referred to Court of Claims	172	1
Wilhite, H., report of Court of Claims	322	1
Wilkes, Benjamin, referred to Court of Claims	147	1
Wilkes, Francis, referred to Court of Claims	210	1
Williamson, A. O., referred to Court of Claims	210	1
Williams, Harry, report of Court of Claims	52	1
Willis, Edward B., estate of, referred to Court of Claims	119	1
Wilson, R. T., report of Court of Claims	132	1
Wilson, Thomas W., referred to Court of Claims	158	1
Wirtz, William, estate of, report of Court of Claims	182	1
Withers, H. M., report of Court of Claims	42	1
Wolfson, Caroline L., referred to Court of Claims	217	1
Woodson, Tarleton, report of Court of Claims	241	1
Woody, H. T., report of Court of Claims	42	1
World's Columbian Exposition, resolution for inquiry into expenditures, etc	68	1
Wright, Eliza (brig), report of Court of Claims	204	1
Wurtele, Jacob, report of Court of Claims	294	1
Wysong, James, report of Court of Claims	74	1
Wytsinger, John, referred to Court of Claims	210	1
Young, Joseph, report of Court of Claims	156	1
Youngblood, Mrs. Sarah E., referred to Court of Claims	259	1
Yuckley, G. W., report of Court of Claims	42	1
Zaddock, Meador, referred to Court of Claims	130	1

52D CONGRESS, } HOUSE OF REPRESENTATIVES. { MIS. DOC.
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ON

COMMERCE, MANUFACTURES, ETC

No. 124.—JANUARY, 1891.

INVALIDISM AND OLD AGE INSURANCE IN GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit a translation of the instructions issued by the Berlin bureau with respect to the provisions of the invalidism and old age insurance law, which will go into effect January 1, 1891.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, December 8, 1890.

INVALIDISM AND OLD AGE INSURANCE.

[Inclosure in Consul-General Edwards's report.—Translation.]

(1) The invalidism and old age insurance law will go into effect January 1, 1891. From that day on the following persons must be insured if they have ended their sixteenth year and have employment for which they receive wages or salary (shares of profits or payments in kind):

(*a*) All department workmen, assistants, journeymen, apprentices, without regard to the amount of their wages; furthermore, officials whose annual salaries do not exceed 2,000 marks. Under the term assistants are included secretaries, chancery clerks, cash messengers, chancery servants, and similar employés whose services are chiefly mechanical; but not to be regarded under this head are persons employed in higher bureau service, managers, secretaries, recorders, bureau chiefs, etc. Excepted from insurance obligation are, further, all imperial and State officers, as well as commercial officials with claim to pension.

(*b*) All servants. Not included under the term servants are persons with scientific or artistic education who occupy positions higher than servants; for example, tutors, governesses, private secretaries, companions, housekeepers, house teachers, etc.

(*c*) Shop employés and apprentices (exclusive of those employed in apothecary shops) whose earnings do not exceed 2,000 marks. To shop employés especially belong bookkeepers, cashiers, drummers, clerks, saleswomen, also persons holding business powers of attorney and authorized agents.

(*d*) Persons forming part of the crews of German sea vessels and of vessels employed in internal navigation.

Furthermore, it is to be remarked that temporary employment, also, creates the insurance obligation, unless in exceptional cases provided for by the Federal Council. Further, employment for which as a recompense only free maintenance is given (no cash payment) does not create the insurance obligation.

(2) The insurance of all persons included under 1 engaged in business in Berlin is to be made at the Berlin invalidism and old age insurance bureau, Molken-Markt No. 1. A registration or removal from the register application is not required, as, for instance, for sickness insurance. The persons mentioned will, from January 1, 1891, on, be insured on the strength of the law.

(3) The payment of the insurance premiums is made by the sticking of stamps in a receipt book, not, as in sickness insurance, by cash payments direct. The receipt book will be supplied free of cost by the chief officers of the police district in which the person to be insured is employed. Persons in question must therefore, in the course of the month of December—at any rate before January 1—go to the police station for these receipt books, having with them their legitimation papers (for example, service book or military papers).

It is also permitted that the work giver may apply for the receipt books for his employés, and, therefore, in particular, larger employers are advised to communicate with the police station chiefs on the subject.

The stamps can be obtained at all post-offices and at the offices made known by signs. Every stamp represents the amount for one week, and the employer must stick the same in the book, his being also the obligation to obtain the stamps. The pasting in of the stamp takes place always at the time of paying the wages. If wages are paid weekly, at the close of the week a stamp must be pasted in; if the payment is quarterly—as, for instance, is usually the case with servants—then at the close of the quarter the requisite number of stamps is to be pasted in the book. Half of the value of the stamps used the employer may deduct from the amount of wages to be paid. The stamps are not all of the same value. All the persons insured in accordance with the amount of their wages are divided into four wage classes, and for each class a different stamp is to be used. The method by which the amount of annual wages is determined will be explained below.

The foregoing proclamation gives, in condensed form, the principal regulations of interest to persons having the insurance obligation, and especially to employers. For details the law itself must be consulted, in which connection we beg to state that by direction of the city council of Berlin, for the practical use of employer and insured, a guide to the invalidism and old age insurance law has been prepared, which is to be had at all bookstores and at the publishers, 12 Steglitzer Strasse.

WAGE CLASSES AND STAMPS OF THE INVALIDISM AND OLD AGE INSURANCE.

All the insured, male and female, are divided into four classes: Class 1, those whose annual wages do not exceed 350 marks; class 2, those whose annual wages are from 350 to 550 marks; class 3, those whose annual wages are from 550 to 850 marks; class 4, those whose annual wages exceed 850 marks. The actual annual earnings are not accepted as the basis of calculation, but the annual yearly earnings of the separate insured persons will be calculated in accordance with regulations fixed by law, the weightiest of which for Berlin are the following:

(1) For those insured persons who are members of communal sickness insurance associations, factory, building, or guild insurance associations, the annual earnings are taken as three hundred times the average daily wages for which the person is insured in the sickness insurance association. The amount of daily wages is taken from the records of such associations. If the person, for instance, is insured in the first class of the sickness insurance association, and if the average daily wages of the person are then calculated as 3 marks, the amount of annual earnings is taken as $300 \times 3 = 900$ marks, or within the fourth class (see above).

(2) For those insured persons who do not belong to the associations mentioned under 1 (servants, shop employés, and apprentices), also for persons who are members of registered assistance associations, the annual earnings are estimated as being three hundred times the amount of the usual daily wages of day laborers in Berlin. These wages are: For males, 2.40 marks; for females, 1.50 marks; for male apprentices over sixteen years, 1.30 marks; for female apprentices over sixteen years, 1 mark. Hence the annual earnings of males who do not belong to the associations mentioned under 1—for instance, shop employés and male servants—are 300×2.40=720 marks, and these persons belong to the third class. The annual earnings of females who do not belong to any of the associations mentioned under 1—for instance, female servants or saleswomen—are 300×1.50=450 marks, and these persons belong to the second class.

Notwithstanding these regulations concerning the calculation of the annual earnings and the fixing of the wage classes, employers and employés may agree that the insurance shall be in a higher class than the amount of wages necessitate; for instance, female servants belong to the second class. If the employer and employé agree that the insurance shall be made in the third or fourth class, this can be done. The insurance in a high wage class has, as a consequence, the payment of a higher premium; the higher the class, the larger the premium.

For each wage class a different stamp will be issued, and until further notice the price of the stamps will be: Class 1, 14 pfennigs; class 2, 20 pfennigs; class 3, 24 pfennigs; class 4, 30 pfennigs.

FOREIGN MEDICAL PRACTITIONERS IN BRITISH COLONIES.

REPORT BY MR. WHITE, SECRETARY OF LEGATION AT LONDON.

I have the honor to inclose copy of a note from Lord Salisbury, with accompanying memorandum from the colonial office, which I have just received, containing a summary of the conditions under which foreign medical practitioners are allowed to practice their profession in the British colonies.

HENRY WHITE,
Secretary of Legation.

UNITED STATES LEGATION,
London, December 9, 1890.

LORD SALISBURY TO MR. LINCOLN.

[Inclosure in Mr. White's report.]

FOREIGN OFFICE, *December 6, 1890.*

SIR: With reference to my note to Mr. Lincoln of the 23d of September on the subject of the regulations in force in this country and British colonies for the admission of foreign medical practitioners to practice their profession, I have now the honor to transmit to you a memorandum which I have received from the secretary of state for the colonies summarizing those regulations in the colonies as far as can be ascertained.

Lord Cross has requested me to suggest to you that it would be advisable for any American practitioner who may desire to practice in any colony to make special inquiry as to the law of that colony.

As regards the law of Jamaica, His Lordship points out that no person can be registered as a medical practitioner therein, without previous examination by a board of examiners in the colony, who is not on the medical register of the United Kingdom, and that, unless he was so registered in the United Kingdom, it was impossible to register the gentleman in Jamaica whose case was referred to in Mr. Lincoln's letter of September 16.

JAMES FERGUSSON.

MEMORANDUM.

The following is a résumé of the conditions under which foreign medical practitioners are at present admitted to practice in the British colonies:

In most cases local registration is compulsory, and for this fees, which vary in different colonies, are usually charged.

DOMINION OF CANADA.

Ontario.—Medical or surgical degree, or diploma from college approved by the medical council, or registration as foreign practitioner in United Kingdom.

Quebec.—Course of at least four years' medical study before receiving the foreign diploma

Nova Scotia.—Any medical diploma which satisfies the provincial medical board.

New Brunswick.—Proper diploma of any sort.

Prince Edward Island.—Proper diploma granted in Great Britain, Ireland, British colonies, or any country in Europe.

British Columbia.—Not admissible.

Manitoba.—Passing of examination before committee or registration in United Kingdom.

Northwest Territories.—Not admissible.

Newfoundland.—No restriction.

AUSTRALASIA.

New South Wales, Queensland, and Victoria.—Regular course of study of not less than three years' duration in a school of medicine, together with diploma, degree, or license, after due examination, from some university or college recognized for that purpose in the country to which it belongs, entitling to practice medicine in that country, or (in Victoria) registration in the United Kingdom.

Tasmania.—Registration in United Kingdom.

South Australia.—Registration in United Kingdom or diploma considered by medical board equal thereto.

Western Australia, New Zealand, and Fiji Islands.—Registration in United Kingdom.

BRITISH WEST INDIES AND BRITISH SOUTH AMERICA.

Jamaica.—Passing examination in the colony, or, in the case of a person not registered in the United Kingdom, the holding of a diploma, license, or certificate conferring or evidencing the possession by him of any qualification in respect whereof he would be entitled to be so registered.

British Honduras.—Registration in United Kingdom or diploma from college or institution of known repute.

British Guiana.—Registration in United Kingdom.

Bahama Islands.—No restriction; must pay fee of £10 for permission to supply medicines.

Trinidad and Tobago.—Registration in United Kingdom or satisfactory diploma and examination by medical board.

Barbadoes, Grenada, St. Vincent, and St. Lucia.—Registration in United Kingdom.

Leeward Islands.—Not admissible, except in Dominica, where diploma from recognized body in Europe or America is recognized.

Bermuda Islands.—Registration in United Kingdom, or regular diploma, or qualification after examination by university or school of medicine of known standing and character.

Falkland Islands.—No provision.

BRITISH AFRICA.

Cape of Good Hope and British Bechuanaland.—Possession of certificate satisfactory to Government.

Mauritius.—Degree or diploma of foreign university and passing examination entitling to practice in country in which degree or diploma has been obtained.

Natal.—Registration in United Kingdom; otherwise as in Mauritius; annual licen fee of £5.

St. Helena.—Registration in United Kingdom.

Sierra Leone.—No restriction.

Gold Coast and Lagos.—Not admissible.

BRITISH POSSESSIONS IN EUROPE.

Gibraltar.—Certificate or other satisfactory proof to governor of due qualification to pra tice medicine.

Malta.—Registration in United Kingdom.

Cyprus.—Diploma from recognized school of medicine.

BRITISH ASIA.

Ceylon.—No restriction.

Hong-Kong.—Diploma which may be found satisfactory after full examination by me cal board.

Straits Settlements.—Registration in the United Kingdom.

TARIFF OF CUBA.

REPORT BY CONSUL-GENERAL WILLIAMS, OF HAVANA.

The following import duties are exclusive of the 25 per cent. extra war subsidy and $1 landing duty on each 1,000 kilograms, gross weight, of landed good, except coals, and are collected wholly in Spanish gold, with a deduction of only 5 per cent.

Table showing import duties.

No.	Articles.	Duty.
1	Agricultural implements:	
	Common classes, such as plows, shares, pickaxes, spades, hoes, rakes, harrows	$2.10 per 100 kilograms.
	Common knives, machetes, or cutlasses—	
	For chopping, with or without sheaths	Free.
	For cutting cane	Do.
	Of superior classes, such as Collins's, which, though denominated as chopping, can be used for other purposes, and imitation of same	27 cents per kilogram.
	Plowshares, narrow hoes, and spades, for exclusive use of agricultural labor	Free.
	Steam-plows, all classes	Do.
2	Animals:	
	Horses and mares—	
	More than 63 inches in height	$72.50 per head.
	63 inches and less	$29.00 per head.
	Mules—	
	More than 58½ inches	$34.80 per head.
	Below 58½ inches	$10.20 per head.
	Cattle	$3.60 per head.
	Hogs of all breeds	$5.20 per 100 kilograms.
	Sheep, lambs, goats, etc	96 cents per head.
	Asses	$4.80 per head.
	Above-named animals, when imported to improve breeds	Free.
	Wild animals, including dogs	29 per cent. ad valorem.
	Poultry—	
	Hens, geese, pigeons, ducks, etc	6½ cents per kilogram.
	Eggs, all sorts, of poultry	$0.25 per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
2	Animals—Continued.	
	Poultry—Continued.	
	Tame birds, parrots, peacocks, etc	58 cents each.
	Singing birds, etc	29 cents each.
3	Art works:	
	Statues and other stone and marble fancy articles, and paving stones	29 per cent. ad valorem.
	Oil paintings of celebrated artists	Free.
4	Barks and extracts:	
	Barks—	
	Winter, sassafras, and other analogous barks	5⅛ cents per kilogram.
	Angostura, Peruvian, elm, etc	10½ cents per kilogram.
	Quinine, orchanet	26⅒ cents per kilogram.
	For tanning	8 per cent. ad valorem.
	Extracts—	
	Special pharmaceutical products and medicines which do not constitute those called "patent" or secret remedies, as tinctures, compound oils, ointments, medicinal vinegars, gum paste, sugar-coated and pectoral preparations, plasters and sticking-plasters, etc	12⅝ cents per kilogram.
	Vegetable, as opium, ipecac, rhubarb, and analogous in value	$3.78⅒ per kilogram.
	Arnica, belladonna, valerian, sarsaparilla, stramonium, and others analogous	63⅒ cents per kilogram.
	Colchicum, thorn-apples, ratanhy, and all such kinds	$1.26⅒ per kilogram.
	Brazilete, Campeachy licorice, and similar kinds prepared for industrial purposes	9 7/10 cents per kilogram.
	Distilled waters, as orange flower, rose, valerian, and others analogous in value	Do.
5	Blacking and inks:	
	Shoe-blacking, liquid or paste	4⅛ cents per kilogram.
	Writing-ink—	
	In earthenware bottles, including weight of same	2⅒ cents per kilogram.
	In glass bottles, including weight of same	3⅛ cents per kilogram.
6	Bone and bone goods (excepting buffalo and ivory):	
	Common buttons and molds for same, horse-combs, and other similar articles of about same weight	24 cents per kilogram.
	Polished buttons, molds for same, hair, tooth, nail, and clothes brushes, mouth-pieces, and other similar articles, though combined with other materials	$1.01½ per kilogram.
7	Books, maps, engravings, music	Free.
	If bound (duty levied according to binding)	29 per cent. ad valorem.
8	Brass and manufactures:	
	Yellow metal, Dutch gold, plates and sheets	$10.95 per 100 kilograms.
	Burnished, in wires, bars, rivets, nails, etc	$13.05 per 100 kilograms.
	Door knockers, bells of all sizes, beds, cradles, chairs, cocks, faucets, scales, sieves, hinges, and other similar articles, including adhering iron and wooden parts	$15.40 per 100 kilograms.
	Hasps, rings, jingle bells, curtain headings, buttons, locks and padlocks, spittoons, clothes-racks, bolts, tubing, pins, hooks and eyes, and other similar articles, although combined with iron	$26.40 per 100 kilograms
	Bridle curbs, lock escutcheons, beer pumps, dog-collars, lamps of all sizes and classes, patent pullies, table springs, thimbles, and other similar articles, though combined with iron or steel	48 cents per kilogram.
9	Breadstuffs and grain:	
	Rice—	
	Clean	$1.95 per 100 kilograms.
	Unshelled, in hull	95 cents per 100 kilograms
	Oats, barley, corn, rye, pea-nuts, and similar (unshelled)	$1.05 per 100 kilograms.
	Wheat, pearl-barley, bird seed, and similar classes	$3.15 per 100 kilograms.
	Manufactures of corn, oats, rye, etc., such as maizena	$4.20 per 100 kilograms.
	Corn meal, rye flour, bran	$1.05 per 100 kilograms.
	Wheat flour, including weight of package	$4.69½ per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
9	Breadstuffs and grain—Continued.	
	Bread and biscuit (sea or pilot), biscuit (fine sorts, as soda, milk, lemon, and others), in wooden boxes and barrels, including weight of inside package when these are small barrels, trunks, or boxes (plain tin boxes excepted)	$6.30 per 100 kilograms.
10	Bricks, tiles, and slabs:	
	Commonest class of bricks	24 cents per 100 kilograms.
	Bricks and slabs valued at $25 to $50 per thousand	29 per cent. ad valorem.
	Bricks, tiles, and tubes (glazed)	68⅜ cents per 100 kilograms
	Bricks and tiles, superior quality	$1.08 per 100 kilograms.
	Roofing tiles	30 cents per 100 kilograms.
	For turrets and ornamental	4⅛ cents per kilogram.
11	Brooms and brushes:	
	Common millet brooms and ship brushes	6 cents per kilogram.
	Shoe-brushes	7⅜ cents per kilogram.
	Hair and clothes brushes of inferior kinds, floor brushes, common dusters, cob cleaners (including handles), and horse brushes	12⅜ cents per kilogram.
12	Candles:	
	Sperm, stearine, and other fine classes	14⅒ cents per kilogram.
	Tallow and similar inferior classes	$6.25 per 100 kilograms.
13	Condensed milk and other canned goods not specified elsewhere, including weight of package	15⅜ cents per kilogram.
14	Carriages and horse-cars:	
	Carriages, coaches, landaus, etc., of four wheels	$192 each.
	Carriages of two seats, stages of four wheels, and omnibuses with wooden tops	$144 each.
	Buggies and dog-carts, breaks, and others of two or four wheels—	
	With one or two seats and leathern tops	$60 each.
	Plain and without leathern tops, as the tilbury, etc. (excepting fancy ones), and those of similar kinds	$30 each.
	Loose pieces for carriages, such as springs, wheels, frames, etc	24 per cent. ad valorem.
15	Railroad cars, all kinds	4 per cent. ad valorem.
16	Chemicals:	
	Acids—	
	Mineral, for industrial purposes, as arsenic, muriatic, and sulphuric for the trade	35 cents per 100 kilograms
	Nitric, for the trade and pure, also pure sulphuric and muriatic	$5.05 per 100 kilograms.
	Vegetable and mineral, for all purposes, as acetic, boracic, crude gallic, and others of analogous value	8 9/10 cents per kilogram.
	Citric, tannic, tartaric, phenic, and others of analogous value	23⅒ cents per kilogram.
	Applicable exclusively to medicines, as lactic, benzoic, cyanic, phosphoric, valeric, and others of analogous value but of small importation	$2.52⅛ per kilogram.
	Alum, bicarbonate and carbonate of soda, potash and lime of ammonide, iron, magnesia, and others of analogous value	$1.90 per 100 kilograms.
	Caustic soda for soap and watch makers, sulphur (in flour or paste), etc	50 cents per kilogram.
	Chlorate of potash	$4.15 per 100 kilograms.
	Oxides of iron, sulphuret of carbon, cyanate of potassium, soluble cream of tartar, etc	15⅒ cents per kilogram.
	Chlorides and oxides of mercury, chloroform, creosote, citrate of iron, and other products analogous in value	28⅜ cents per kilogram.
	Phosphorus	$8.70 per kilogram.
	Quinine and its salts, morphia, alkaloids, gold, silver, platinum, and other salts of precious metals, and other similar products, for whatever purpose or application	$10.08 7/10 per kilogram.
	Preparations known as patent medicines, in glass packages up to 0.125 liter capacity	58⅜ cents per kilogram.
	Mineral waters, natural and artificial, exclusive of packages	$2.60 per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
16	Chemicals—Continued.	
	Natural and chemical products and drugs such as are generally imported in powders in their natural state or prepared, such as tartaric acid, Rochelle salts, red lead, litharge, carbonate of leads, oxide of zinc, subnitrate of bismuth, carbonate of iron, oxide and iodures of mercury, calomel, arsenical acid, sublimate of sulphur, carmines, emery chromes, vermilion, bronze, dextrine starch and arrowroot, bicarbonate of soda, red coral, protoxide of manganese, Venetian talc, verdigris, and other similar kinds, are dutiable according to the items to which they belong.	
	An extra duty of 15 and 35 per cent. will be levied on such products whose pulverization constitutes a special industry, viz, 15 per cent. on powders whose alteration is below 25 per cent. (as those of rhubarb, Florence lily, mallow, hound's-tongue and licorice roots, mustard and flax seeds, gum arabic, cinnamon bark, guaiacum wood, tartar-emetic, gall-nuts, pepper of all kinds and similar seeds, nitrate of potash, sugar of milk, sulphur of antimony, cream of tartar, calcinated bones, salt ammoniac, chlorate of potash, and other similar articles), and 35 per cent. on those the alteration of which is above 25 per cent. (as opium, tragacanth gum, resinous gum, ipecac; turpeth, jalap, and sarsaparilla roots; castoreum, flowers and leaves in general, sneezewort, ammonium, poison-nuts, Peruvian bark, cantharides, coloquintida, etc.).	
17	Clocks and watches—wood, iron and other metals (except gold and silver), either fine or common, and gas meters	24 per cent. ad valorem.
	On gold and silver watches duties are levied as on jewelry of same metals.	
18	Coal:	
	Animal	60$\frac{8}{10}$ cents per 100 kilograms.
	Mineral	48 cents per 1,000 kilograms.
	Vegetable	8 per cent. ad valorem.
19	Copper and copper wares	Same duties as those for brass and manufactures. (*See* No. 8)
20	Cotton and cotton goods:	
	Raw cotton	$6 per 100 kilograms.
	Cotton-waste, for cleaning machinery	$7.30 per 100 kilograms.
	Candle wicks and tapers	52½ cents per kilogram.
	Small wares, as tape, lace, braid—	
	With wooden fixings	66 cents per kilogram.
	With iron or copper (small braids or shoe-strings with copper ends)	36 cents per kilogram.
	In buckram, for tailors' use	33⅓ cents per kilogram.
	Cotton textures—	
	Plain, smooth, raw, white, or dyed, as madapollams, calicoes, nankeen, uncarded, covered with cotton and other analogous texture:	
	Up to 10 threads	$15 per 100 kilograms.
	10 to 16 threads	$21 per 100 kilograms.
	17 to 22 threads	35 cents per kilogram.
	Plain and smooth, printed list, or such whose threads have been dyed before weaving, as calicoes, cambrics, shirtings, and similar kinds:	
	Up to 12 threads	$26 per 100 kilograms.
	13 to 16 threads	$31.50 per 100 kilograms.
	17 to 19 threads	50½ cents per kilogram.
	20 to 22 threads	65 cents per kilogram.
	Tulle, plain, flowered, or embroidered, white or colored:	
	Up to 5 threads	$1 per kilogram.
	More than 5 threads	$3 per kilogram.
	Laces:	
	Common classes	90 cents per kilogram.
	Lightest classes, plain or embroidered, white or colored	$2 per kilogram.

Table showing import duties—Continued.

No.	Articles.	Duty.
20	Cotton and cotton goods—Continued.	
	Cotton textures—Continued.	
	Light goods, fine or common, close, tight, or thick; also, open woven or fine textures, termed light or not, and all those containing 23 threads and upwards, plain, smooth, or worked in the loom, white, printed, or dyed, as muslins, jaconets, organdies and cambrics, lawns, ginghams, and the so-called lining muslins:	
	Up to 8 threads	$35 per 100 kilograms.
	9 to 12 threads	$60 per 100 kilograms.
	13 to 16 threads	$100 per 100 kilograms.
	17 to 22 threads	$1.20 per kilogram.
	23 to 28 threads	$1.50 per kilogram.
	29 to 34 threads	$2 per kilogram.
	35 threads and upwards	$2.50 per kilogram.
	Embroidered by hand or in the loom or otherwise adorned will pay as per their respective items, with 20 per cent. extra.	
	Embroidered by hand or in the loom and adorned with silk or wool	29 per cent. ad valorem.
	Net-work, as shawls, head ornaments, and all such articles	$1 per kilogram.
	Quilted and vesting, plain or worked, white or colored	Do.
	Twilled, white, printed, or colored, of common class, such as canvas, duck or sail-cloth, lamp wicks, and hose	$20 per 100 kilograms.
	Of superior classes, such as drills, damasks, calicoes, or madapollams, cross twilled, and all such goods	$35 per 100 kilograms.
	Velvet, shag, and carpet-like textures, carded, such as blankets, crude, white, and colored	$20 per 100 kilograms.
	Shag textures, cut, as carpet pieces, blankets, and all such articles	72½ cents per kilogram.
	Velvet-like textures, such as velveteen, plain or worked	60 cents per kilogram.
	Net-work in stockings, undershirts, hose, gloves, drawers, caps, etc	$130 per 100 kilograms.
	Plush textures, uncut, as shawls and the so-called Turkish towels	45 cents per kilogram.
	Tapes and ribbons:	
	White or colored	30 cents per kilogram.
	Plain or worked—	
	For bonnets and dresses, velveteen ribbons, etc	$1 per kilogram.
	Such as are used for boots, bridles, or reins	35 cents per kilogram.
	Handkerchiefs:	
	In pieces or single, with or without fringes, with no handwork, will pay according to foregoing items.	
	Hemmed or adorned with any hand-work will pay as above, with 20 per cent. extra.	
	Hemmed, eye-hemmed, and with insertion work—	
	Up to 17 threads	$1.30 per kilogram.
	18 to 20 threads	$1.90 per kilogram.
	21 to 23 threads	$2.55 per kilogram.
	24 threads and upwards	$3.80 per kilogram.
	Ready-made clothing will pay according to the textures of which it is made, with 100 per cent. extra.	
	The counting of the threads in shirts will be made on the bosom, collar, and cuffs, and when these parts are of linen and the balance of the shirt of cotton 50 per cent. extra will be levied.	
	Parasols and umbrellas	$1.20 per dozen.
	Textures with an India rubber basis, such as cotton elastic, etc	80 cents per kilogram.
21	Earthenware:	
	Stone and china, smoking pipes, spit-boxes, pans, flower pots, domestic and cooking utensils, and all such articles, glazed or unglazed	$1.55 per 100 kilograms.
	Toys, jars, jugs, bottles, pitchers, water filters, etc.—	
	Unglazed	$5.20 per 100 kilograms.
	Carved, engraved, or painted	15¾ cents per kilogram.
	Flint ware of all kinds not elsewhere specified	$3.15 per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
21	Earthenware—Continued.	
	White porcelain goods	$7.55 per 100 kilograms.
	Of superior class, as China, Japan, etc	31½ cents per kilogram.
	Sevres porcelain in all shapes and fancy porcelain objects for all uses	43⅓ cents per kilogram.
22	Fertilizers of all kinds, natural or chemical	Free.
23	Fish:	
	Live	$2.10 per 100 kilograms.
	Common sorts, dried, smoked, salted, or pickled, as Halifax and Newfoundland cod, herring, mackerel, hake, haddock, mullet, pressed sardines, exclusive of weight of brine	$1.80 per 100 kilograms.
	Of superior classes, dried or pickled, such as anchovies, tunny, salmon, cod sounds, Norwegian, Swedish, and Scotch cod, stockfish, and all classes of live and dried shell-fish, including weight of brine and glass package, if any	$2.85 per 100 kilograms.
	Tinned sardines, including weight of inside package	$12.50 per 100 kilograms.
	Other fish preserved in oil not specified above, pickled or otherwise preserved, oysters in their own water, or canned, including weight of inside package	18$\frac{8}{10}$ cents per kilogram.
24	Flax, hemp, and jute:	
	Raw, and oakum, tarred and untarred	$2.50 per 100 kilograms.
	Cordage or rigging	$6.25 per 100 kilograms.
	Rope of all kinds	13 cents per kilogram.
	Pack-thread	8⅓ cents per kilogram.
	Twine and crude, untwisted thread, including shoe-makers'	18 cents per kilogram.
	Crude textures—	
	With colored stripes, smooth or cross woven, and hemp cloth, packing canvas, and hessians of up to 5 threads	$5 per 100 kilograms.
	Plain and smooth, with or without colored stripes, as osnaburgs, sackcloth, tambour, sail-cloth, Ghent cloth, Russia, nankeen, etc., of all kinds, hemp cloth and hessians, of 6 to 10 threads	$15 per 100 kilograms.
	Bramantes, Irish linen, Holland linen, silesias (colored and brown), and analogous textures of from 11 to 16 threads	$30 per 100 kilograms.
	Brown textures, with or without colored stripes, cross woven or twilled, as duck and drills, of all kinds	Do.
	Plain and smooth textures, striped, listed, or dyed—	
	Up to 9 threads	$22.50 per 100 kilograms.
	10 to 12 threads	$32.50 per 100 kilograms.
	13 to 16 threads	$50 per 100 kilograms.
	17 to 20 threads	80 cents per kilogram.
	21 to 23 threads	$1 per kilogram.
	24 to 27 threads	$1.30 per kilogram.
	28 to 30 threads	$2 per kilogram.
	31 threads and over	$3 per kilogram.
	Light textures, as French and British lawns and all similar goods, will pay 60 per cent. extra.	
	Thick and heavy shirting silesia and such linens will pay as above, with 20 per cent. extra.	
	Twilled or cross-woven textures, damask-like, flowered, white, printed, dyed, or striped, as drills, damasks, and that called "jipa-japa," and analogous, in pieces, table-cloths, napkins, and towels	$60 per 100 kilograms.
	Tape or ferret ribbons for foot straps, girths, etc., will pay according to the preceding items.	
	Stockinet textures—	
	Stockings, gloves, undershirts, drawers, and all such goods:	
	Of common class, or with seams	50 cents per kilogram.
	Fine sorts, without seam	$2.50 per kilogram.
	Tulles, nets, laces, embroidered bands, and all kinds of embroidered textures	29 per cent. ad valorem.
	Handkerchiefs—	
	Without seam will pay as the textures of this section, with 20 per cent. extra.	

Table showing import duties—Continued.

No.	Articles.	Duty.
24	Flax, hemp, and jute—Continued.	
	Handkerchiefs—Continued.	
	Hemmed will pay as above, with 50 per cent. extra.	
	With edges bordered, though made in the loom, will pay as above, with 100 per cent. extra.	
	Ready-made clothing in general and shirts with plain bosoms will pay as the textures of this section, with an extra charge of 100 per cent., the threads being counted in the bosoms, collars, and cuffs.	
	Embroidered shirt bosoms and all sorts of dress, skirt, under-clothing, pillow-case, cradle and embroidered trimmings for layettes, will pay as above items, with an extra charge of 250 per cent.	
25	Fruits:	
	Green and fresh, such as apples, peaches, pears, melons, grapes, and olives, including weight of inside package when imported in bottles..	$2.50 per 100 kilograms.
	Dried and shelled, like almonds, hazel-nuts, walnuts, chestnuts, pecans, etc., and pressed, like raisins, prunes, figs, peaches, etc.......	$3.80 per 100 kilograms.
	Unshelled, as almonds, dates, and others as above of superior classes, in glass bottles or other fine packages, including weight of same.....	$9.45 per 100 kilograms.
	Preserved in their own juice, in brandy, sirup, or in paste, also stuffed olives and other preserved fruits and sweetmeats not specified, candies, chocolate, etc., including weight of inside glass, tin, or wooden packages, when any........	$8 per 100 kilograms.
26	Furs, fine and fancy classes, such as lion, tiger, bear, ermine, otter, leopard, and similar ones........	29 per cent. ad valorem.
27	Glass and glassware:	
	Common bottles, demijohns, flasks, and similar articles........	$1.55 per 100 kilograms.
	Window-glass and such classes, plain or decorated, white or colored—	
	Up to 600 square inches each........	$3.80 per 100 kilograms.
	601 to 1,000 square inches........	$5.05 per 100 kilograms.
	Of more than 1,000 square inches........	$7.55 per 100 kilograms.
	Looking-glasses without frames will pay as the preceding items, with 500 per cent. extra; with frames, of up to 1,000 square inches each, will pay as above items, with 500 per cent. extra; with frames, of more than 1,000 square inches, as above, with 1,000 per cent. extra.	
	White glass and crystal, colored or painted, molded or shaped in bottles, flasks, vases, cups, tumblers, jars, sugar and sweetmeat dishes, lamps, lanterns, and similar articles not specified........	$8.70 per 100 kilograms.
	Common glass articles, as retorts, mortars, and other articles for the use of druggists and apothecaries, not polished with emery........	$7.20 per 100 kilograms.
	Crystal—	
	In the shape of lamp shades, globes, tubes, chandeliers, fancy lanterns, etc........	$31.50 per 100 kilograms.
	In the shape of toys and other fancy articles........	72½ cents per kilogram.
	Spectacle glasses, watch glasses, and the so-called muslin glass, in all shapes........	$3.15⅛ per kilogram.
28	Glucose, ammoniac, hyposulphite of soda, litharge, nitrate of potash, nitrate of soda, sulphate of zinc, and other products analogous in value...	3⅛ cents per kilogram.
29	Glue:	
	Common or inferior........	5⅛ cents per kilogram.
	Isinglass and boiling........	31⅕ cents per kilogram.
30	Gunpowder and mining wicks:	
	In barrels and other large packages........	8⅞ cents per kilogram.
	In tins and small packages........	16⅞ cents per kilogram.
31	Hair:	
	Human—	
	Rough........	$6.50 per kilogram.
	Manufactured........	29 per cent. ad valorem.
	Horse—	
	Bristle and wool........	$1.90 per kilogram.
	For pillows, cushions, etc........	15⅝ cents per kilogram.

Table showing import duties—Continued

No.	Articles.	Duty.
32	Hair—Continued.	
	Horse—Continued.	
	For manufactured textures, plain, cross-woven, or twilled, for furniture covers, sieves, etc	47½ cents per kilogram.
	In other fancy articles not mentioned elsewhere	29 per cent. ad valorem.
32	Hay, common and dried, straw and grass, millet straw for broom manufactures	80 cents per 100 kilograms.
33	Hides and skins:	
	Common, ass, horse, and cow skins—	
	Dried and hair on	$6.25 per 100 kilograms.
	Green	$2.10 per 100 kilograms.
	Leather—	
	Tanned (sole)	$9.40 per 100 kilograms.
	Varnished (patent)	$20.85 per 100 kilograms.
	Unvarnished (split), for industrial purposes	$18 per 100 kilograms.
	Hides and sole-leather are understood to be those which preserve their primitive thickness; those called buffalo, varnished, or patent, leather, and other similar classes will pay duties according to corresponding items.	
	Sheep, goat, and similar skins with hair on	$15.65 per 100 kilograms.
	Tanned or dressed skins—	
	Morocco, sheep, etc	$26.10 per 100 kilograms.
	Superior, as fine, black, saturated calf, kid, and shagreen	$49.55 per 100 kilograms.
	Varnished, as patent-leather, buffalo, calf, and other unvarnished of the most superior classes, as pig-skin, chamois, etc	$78 per 100 kilograms.
34	Horn and horn goods:	
	Buffalo, manufactured in any form	$1.74 per kilogram.
	Common horn goods will pay duties as bone goods. (*See* No. 6.)	
35	Ice	17⅜ cents per 100 kilograms.
36	India rubber and manufactures:	
	Plates or sheets, machinery belts, hose, and similar articles	26 1/10 cents per kilogram.
	Shoes, boots, spatterdashes, carpet-bags, life-preservers, and other similar articles	36 cents per kilogram.
	Water-proof—	
	With linen and cotton	87 cents per kilogram.
	With wool	$1.30½ per kilogram.
	With silk	$2.61 per kilogram.
	Vulcanized and wrought, in combs, head-gear, tooth, nail, and clothes brushes, pen-holders, and other similar articles, though combined with other materials, as metal and bone	$1.45 per kilogram.
	Catheters, syringes, bands for holding papers, nipples, letter weights, and similar articles, though combined with any other material	$2.32 per kilogram.
	All other articles of less value, such as finger and ear rings, bracelets, breastpins, watch chains, etc	29 per cent. ad valorem.
37	Iron and manufactures:	
	Cast and in pigs	26 1/10 cents per 100 kilograms
	Portable stoves, plates, boilers, furnaces, doors and hatches, caldrons, tubes, and similar articles	$1.55 per 100 kilograms.
	Forged, tinned, enameled, and galvanized, or not, in pans, coffee-pots, skillets, colanders, buckets, ladles, skimmers, cooking and chamber pots, wash-basins, fish-kettles, frying-pans, roasting cylinders, and all other articles of analogous sorts	$4.20 per 100 kilograms.
	Cast, in hinges, balls, balconies, cooking-stoves, columns, water-tanks, staircases, and other similar objects for building; also, sarcophagi, garden chairs and sofas, and other articles of the same kind	$2.10 per 100 kilograms.
	Forged, in same articles mentioned above and tubes	$3.15 per 100 kilograms.
	Cast and forged nails	$3.00 per 100 kilograms.
	Anvils and other similar articles	$2.10 per 100 kilograms.
	Copying hand-presses	5⅜ cents per kilogram.
	Forged, in rods and bars, railings, trunnels, hoops, plates for tanks, clarifiers, roofs, floorings, platforms, and other similar objects	$1.30 per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
37	Iron and manufactures—Continued.	
	Galvanized, in articles of above item	$3.15 per 100 kilograms.
	Plates cut for sugar molds	35 cents per 100 kilograms.
	Forged locks, padlocks, bolts, though containing small parts of yellow metal	$7.30 per 100 kilograms.
	Forged and cast, in common horse, stiff, and snaffle bits, spurs, stirrups, unpolished, and with or without any small ordinary metal plates	$15.65 per 100 kilograms.
	Same articles as above polished, bronzed, gilt, silvered, or plated	$56.75 per 100 kilograms.
	Hooks and eyes, handles, knockers, rings, with or without screw and bolt, large fish-hooks, screws of all sorts of more than 3 inches long, harpoons, door bolts and hinges, horseshoes, latches, pullies, carriage builders' and saddlers' linchpins, hurdle rings, steps, hooks, buckles, springs, screws and bolts, braces, and all similar articles	$3.15 per 100 kilograms.
	Same as above bronzed, silvered, gilt, and plated—	
	Common classes	$13.05 per 100 kilograms
	Superior classes	$50\frac{3}{8}$ cents per kilogram.
	Chains—	
	Up to ¼-inch links	$4\frac{7}{10}$ cents per kilogram.
	More than ¼-inch links	$2.60 per 100 kilograms
	Waiters and trays, cash, paper, and jewelry boxes, and other similar articles not otherwise specified	29 per cent. ad valorem
	Fish-hooks	$26\frac{3}{8}$ cents per kilogram.
	Beds, cots, and cradles—	
	With or without metal ornaments, columns included	$5.20 per 100 kilograms
	Plated and in imitation of copper will pay as above, with 100 per cent. extra.	
	Sieves and rat traps with wire cage, wooden parts included	$7\frac{3}{10}$ cents per kilogram.
	Dish covers, net food safes	$22\frac{1}{10}$ cents per kilogram.
	Spice and coffee hand-mills—	
	With wooden or iron box	$9\frac{3}{8}$ cents per kilogram.
	Immovable, with or without fly-wheels, for grinding coffee, and corn-shellers	$4.80 per 100 kilograms.
	Wire-netting	$4.70 per 100 kilograms.
	Screws for hinges and other purposes, up to 3 inches long	$7.30 per 100 kilograms.
	Hair-pins—	
	Varnished or not	$4\frac{5}{8}$ cents per kilogram.
	With or without steel point and unvarnished	$17\frac{3}{8}$ cents per kilogram.
	Pack needles, larding pins, skewers, punches, and awls	$36\frac{3}{10}$ cents per kilogram.
	Shoe-makers' leather cutters	$24\frac{7}{10}$ cents per kilogram.
	Thimbles	$21\frac{3}{8}$ cents per kilogram.
	Canvas and common sewing-needles—	
	German	72½ cents per kilogram.
	British	$4.35 per kilogram.
	Steel pens	1.81\frac{3}{10}$ cents per kilogram
	Watch chains, key rings, and all other small steel or polished iron not specified	29 per cent. ad valorem.
	Tools of a common class applicable to agriculture and other trades	$2.10 per 100 kilograms.
	Hammers for carpenters, coopers, masons, shoe-makers, tongs, shovels, cold-chisels, coopers' punches, and other similar	$5.65 per 100 kilograms.
	Knives for carpenters, coopers, and tanners, common planes, jack, smoothing, rabbet, and round jointers, and other similar, wooden parts included	$8\frac{3}{10}$ cents per kilogram.
	Chisels of all classes, augers, compasses, sickles, nippers, pliers, screw-drivers, hollow punches, saw-sets, hand-vises, squares, fleams, corking tools, loose blades for planes, and similar tools	$14\frac{3}{8}$ cents per kilogram.
	Carving and table knives, with or without forks—	
	With bone, horn, whalebone, iron, or wooden handle	$18 per 100 kilograms.
	With ivory, tortoise, mother-of-pearl, and plated or gilt handle	60 cents per kilogram.
	Penknives and razors	29 per cent. ad valorem
	Hand-saws of all classes, circular and vertical, for mills	$22\frac{3}{8}$ cents per kilogram

Table showing import duties—Continued.

No.	Articles.	Duty.
37	Iron and manufactures—Continued.	
	Saws, with or without frames and pits	10⅘ cents per kilogram.
	Screw augers without handle, trunnel drivers, and common augers with wooden handle	12 cents per kilogram.
	Carpenters' breast bits, with and without augers, and loose augers for same	33⅒ cents per kilogram.
	Screw-plates of all sizes, including tinners' stationery	13⅒ cents per kilogram.
	Wrought iron	48 cents per kilogram.
	Scissors—	
	Steel and burnished, assorted:	
	Common classes	$2.52½ cents per kilogram.
	Superior	$4.41 3/10 cents per kilogram.
	Tailors' and gardeners'	$1.04⅒ cents per kilogram.
	For shearing animals, etc	30 cents per kilogram.
	Knives for chopping wood—	
	Belgian and German, of three grooves, with or without sheaths, and other similar classes	7⅕ cents per kilogram.
	Of superior classes	12 cents per kilogram.
	Tools of general use, as hatchets, axes, adzes, trowels, and other of like sorts	10⅘ cents per kilogram.
	Arms, fire and steel, of all kinds	29 per cent. ad valorem.
	Scales, steelyards, and all such classes	24 per cent. ad valorem.
	Rails for railroads, public and private	4 per cent. ad valorem.
38	Jewelry, with or without precious stones—gold and silver plate, jewels, and watches and precious stones of all kinds	5 per cent. ad valorem.
39	Lead:	
	Pigs, sheets, balls, and tubes	$2.85 per 100 kilograms.
	Toys, tops for bottles, and similar articles	13⅒ cents per kilogram.
40	Leather goods:	
	Boots—	
	Mounting and coachmen's	$14.40 per dozen pairs.
	Men's half-boots or gaiters with elastic or buttons	$5.04 per dozen pairs.
	Partly silk, for ladies	$8.17⅘ per dozen pairs.
	Of other classes, adorned with silk and other materials	$4.32 per dozen pairs.
	Without garniture, and laced or buttoned	$2.88 per dozen pairs.
	Shoes, laced, and slippers for women and men, and of classes not specified	$1.80 per dozen pairs.
	Boots and shoes for children, of up to 23 centimeters for boys and 20 centimeters for girls, will pay according to class, as per preceding items, with 50 per cent. less.	
	Sundry leathern goods—	
	Common manufactured, as harnesses for carts and other saddlers' articles, such as whips, saddle-trees (when partly of leather), holsters, valises, carpet-bags, hat-cases, etc., and leathern and oil-cloth articles, including weight of wood, pasteboard, and metals, when any	19⅕ cents per kilogram.
	Of a better class than above, as harnesses for carriages, common saddlery, with or without pig-skin, morocco, or corduroy, partly embroidered or with some parts of silk or floss silk, and articles annexed, as bridles, straps, etc., and for machinery, hose for water, and lining for hats	40 cents per kilogram.
	Of superior quality, as horse saddles, with pig or buffalo skin sides, adorned or not with velvet top, embroidered or not, fine harnesses for one-horse carriage, value of which does not exceed $40, or for two horses and with a value of $80, straps annexed, embossed, embroidered, or otherwise adorned, hunting goods, buffalo, shagreen, Russia, and fancy hand-bags for ladies	29 per cent. ad valorem.
	Gloves—	
	Kid	$4.35 per kilogram.
	Gazelle, buck, and chamois	$1.67⅘ per kilogram.

Table showing import duties—Continued.

No.	Articles.	Duty.
41	Lime and cement—chalk, sand, lime, plaster, grindstones, filters, well stones, and other similar goods, also marble dust whenever it is proved that its value is equal or less than that of lime and chalk	35 cents per 100 kilograms.
42	Malt liquors (ale, porter, and lager):	
	In wooden packages	$3.65 per 100 kilograms.
	In bottles	$8.35 per 100 kilograms.
43	Machinery:	
	Steam, hydraulic, electric, and all other engines, motors, implements, apparatus, and machines for whatever purpose and of whatever materials, manometers, well pumps, sewing-machines, windmill, gasometers, and all accessory pieces for same	8 per cent. ad valorem.
	All complete machinery and apparatus exclusively applicable to the sugar industry, from the cartage and grinding of cane to the manufacture, packing, and extraction of the sugar, when imported by planters	1 per cent. ad valorem.
	Extra pieces for same will pay 8 per cent.	
44	Medical, mathematical, and physical instruments, and others of the kind not specified	29 per cent. ad valorem.
45	Naval stores:	
	Resin (white pitch and pine), including weight of package	90 cents per 100 kilograms.
	Vegetable tar and pitch, including weight of package	60 cents per 100 kilograms.
	Crude turpentine and resin gums	3⅛ cents per kilogram.
	Spirits of turpentine	$3.65 per 100 kilograms.
	Oil-cake	$5.20 per 100 kilograms.
	Codliver and whale oils, refined or crude, including weight of inside package	Do.
	Mineral oil—	
	Crude petroleum	96 cents per 100 kilograms.
	Purified or refined coal-oil	7⅛ cents per kilogram.
	Kerosene, benzine, parraffine, and lubricating and painting greases and oils, including weight of inside package	4⅜ cents per kilogram.
	Vegetable oil—	
	Common classes	$5.20 per 100 kilograms.
	Solid, as stearine, whale, artificial, mineral wax, etc	$13.05 per 100 kilograms.
	Tallow, raw and melted	$4.45 per 100 kilograms.
46	Bees-wax:	
	Manufactured	43½ cents per kilogram.
	In masks	$3.19 per kilogram.
47	Paints:	
	Ground and prepared in oil, of all kinds	$2.60 per 100 kilograms.
	Common classes, as ocher, red ocher, carbonate of lime, etc	80 cents per 100 kilograms
	Superior to above, as white lead and zinc, calcinated violet, etc	$1.90 per 100 kilograms.
	Superior to above, as red lead	$2.85 per 100 kilograms.
	Superior to above, as Chinese white and artificial blue ocher, etc	$4.75 per 100 kilograms.
	Superior to above, as Dutch and British vermilion, chrome-yellow, and fine green (oxide of copper)	$8.20 per 100 kilograms.
	Superior classes of all sorts, as blue, carmine, China, vermilion, and other similar classes	29 per cent. ad valorem.
48	Paper:	
	Writing, drawing, printing, cigarette, and card-board of all kinds	$13.05 per 100 kilograms.
	Copying, blotting, China, marbled, granite, and other similar fancy classes	26⅒ cents per kilogram.
	Printed—newspapers, geographic maps, and books the importation of which is authorized	Free.
	Copying, vegetable, embroidery, silvered, and gilt of inferior classes	63⅒ cents per kilogram.
	Silvered and gilt, superior	$2.52⅛ per kilogram.
	Printing, white—	
	Inferior, for newspapers	$3.15 per 100 kilograms.
	Superior and colored of all descriptions, as used for wrapping	$9.40 per 100 kilograms.

Table showing import duties—Continued.

No.	Articles.	Duty.
48	Paper—Continued.	
	Wrapping—	
	Fine brown	$4.20 per 100 kilograms.
	American yellow, common sorts, tarred, and British gray	$2.85 per 100 kilograms.
	Light brown, as manila and such sorts	$9.40 per 100 kilograms.
	Wall-paper—	
	Plain	11⅗ cents per kilogram.
	Gilt, silvered, and velveted	23⅕ cents per kilogram.
	Lead, tin, rag, and sand	5⅕ cents per kilogram.
	Paper prepared for any use, as small books for cigarettes, cut for bouquets, sweetmeats, screens, envelopes, and other similar articles will pay as above, with an extra duty of 50 per cent.	
	Printed or lithographed of one color, as labels for cigars and cigarettes	14½ cents per kilogram.
	Chromo-lithographs of several colors	29 cents per kilogram.
	Printed, lithographed, or engraved, painted or not	43½ cents per kilogram.
	Books, blank and ruled, with or without metallic edges, will be levied on as per item they belong to, with an extra charge of 50 per cent.	
	Pasteboard	$1.80 per 100 kilograms.
	Manufactured:	
	Hats, etc	12 cents per kilogram.
	Small boxes for pills, etc	24 cents per kilogram.
	Masks	58 cents per kilogram.
	Boxes, painted or gilt, for jewelry, sweetmeats, etc	$4.35 per kilogram.
49	Plated ware of all kinds	29 per cent. ad valorem.
50	Provisions:	
	Beef, pork, hams, etc.—	
	Of ordinary classes, as smoked, salted, hung beef, and such	$6.25 per 100 kilograms.
	More superior than above, as mutton, smoked tongues, family beef, Westphalia hams, etc	$15.10 per 100 kilograms.
	Pickled beef	$1.80 per 100 kilograms.
	Pickled pork	$3 per 100 kilograms.
	Jerked beef	$2.10 per 100 kilograms.
	Sausage and stuffed meats	$15 per 100 kilograms.
	Canned meats, with weight of cans	$25.20 per 100 kilograms.
	Lard, pork, for cooking	$7.30 per 100 kilograms.
	Butter, including weight of glass or earthen package or of salt when imported in firkins	$11.35 per 100 kilograms.
	Cheese, United States and similar kinds	$6.25 per 100 kilograms.
51	Quicksilver and other products of analogous value	28⅗ cents per kilogram.
52	Seeds:	
	Cheapest classes (medicinal), as linseed, mustard, and similar	3⅕ cents per kilogram.
	Higher value, as cardamom, carthamus, and other such kinds	28 7/10 cents per kilogram.
	Seeds and plants of all kinds intended for planting and herbariums of a scientific character	Free.
53	Soap:	
	Common kinds	$4.20 per 100 kilograms.
	Perfumed—	
	When packed separate, inside package included	42 1/10 cents per kilogram.
	When put up three or more in one package	13 1/10 cents per kilogram.
54	Spirits:	
	Pure or compound, with or without sugar, as gin, potato, and barley brandies and similar kinds—	
	In wooden packages and demijohns	$9.30 per 100 liters.
	In bottles	$13.95 per 100 liters.
	Inferior classes, as brandy, cognac, and rum—	
	In wooden packages and demijohns	$4.65 per 100 liters.
	In bottles	$8.35 per 100 liters.
	Superior classes—	
	In wooden packages and demijohns	$11.50 per 100 liters.
	In bottles	$15 per 100 liters.

Table showing import duties—Continued.

No.	Articles.	Duty.
54	Spirits—Continued.	
	Inferior classes of cognac, brandy, and rum are understood to be those worth, in their place of production, not over 25 cents per liter in wooden casks and $5 per case of one dozen bottles. Besides above duty, an extra consumption tax of 2 cents per liter is collected for the municipality.	
55	Starch	$5.05 per 100 kilograms.
56	Steel and steel ware:	
	Plates and bars	$4 20 per 100 kilograms.
	Pieces for watch-makers	8 per cent. ad valorem.
	Files, rasps, and other tools of similar classes	12 cents per kilogram.
	The above duties will be levied only on articles manufactured of pure steel; on others, where steel is combined with iron, they will be collected on the latter metal.	
57	Tin and tin-plate goods:	
	Pigs, bars, and sheets	$10.45 per 100 kilograms.
	Plates	$3.65 per 100 kilograms.
	Oil cans and cruets, candlesticks, sugar dishes, cooking pans, coffee, milk, and chocolate pots, snuffers, funnels, spittoons, jars, bath tubs, cake molds, plates, pitchers, dishes, lamp reflectors, spoons, skimmers, ladles, and other similar articles	$13.05 per 100 kilograms.
58	Tobacco:	
	Chewing, of all kinds	10½ cents per kilogram.
	Snuff and other manufactures whose importation is allowed in Cuba	52½ cents per kilogram.
59	Vegetables:	
	Esculent, as celery, garlic, onions, cabbage, turnips, potatoes, beets, carrots, and others of similar kinds	$1.05 per 100 kilograms.
	Pickled, weight of vinegar and inside package included	$6.25 per 100 kilograms.
	Preserved in their own juice or canned, also mushrooms, prepared mustard, and all similar goods, including inside package	$12.60 per 100 kilograms.
	Beans, peas, etc.	$1.80 per 100 kilograms.
60	Wood, and wooden goods:	
	Pine boards and scantlings	$4 80 per 1,000 feet.
	Poplar	$7 20 per 1,000 feet.
	Maple and cedar	$9.60 per 1,000 feet.
	Walnut	$12 per 1,000 feet.
	Mulberry, Campeachy, and other dye-woods	17⅞ cents per 100 kilograms
	Flooring, planed, chiseled, and otherwise prepared so that it can not be included in above items, will pay an extra duty of 25 per cent.	
	Timbers, hard, unhewn	$7.20 per 1,000 feet.
	Cooperage and hoops, shaved and unshaved, for hogsheads, pipes, etc.—	
	More than 220 centimeters	$5.16 per thousand.
	220 centimeters or less	$2.16 per thousand.
	Staves for pipes	$7 80 per thousand.
	Hogshead, pipe, and barrel shooks, with heading, but exclusive of hoops	26⅞ cents each.
	Hogshead headings and loose box shooks for sugar	15 cents each.
	Empty hogsheads, pipes, and barrels of more than 30 liters capacity and boxes, new or old, will pay as preceding classification, with 30 per cent. extra.	
	Empty barrels of less than 30 liters capacity, buckets, tubs, wash and bath tubs, plates and dishes, hair-dressers' blocks, lasts, mallets, tool handles, rat traps without wire, cocks, small boxes for druggists, spoons and forks, chocolate beaters, and all similar articles	6 cents per kilogram.
	Empty hogsheads in which molasses was previously exported from Cuba and are re-imported and empty barrels in which fresh fruits were exported from this country and are returned here for the same purpose	Free.

Table showing import duties—Continued.

No.	Articles.	Duty.
60	Wood and wooden goods—Continued.	
	Carpenters' screws and presses, wheelbarrows with or without iron parts, printing cases, pump stands, and all similar articles	4⅛ cents per kilogram.
	Ship blocks and pullies of all kinds	12⅞ cents per kilogram.
	Water-levels	19⅜ cents per kilogram.
	Clothes-racks, oars, and handspikes	3 cents per kilogram.
	Wooden pieces prepared for carriage and saddle makers, such as wheel spokes and felloes, shafts, saddle trees and bows, yokes for horse collars, and other analogous articles with or without iron parts	$10.45 per 100 kilograms.
	Shingles	4⅜ cents per 100 kilograms.
	Match splints	1⅛ cents per kilogram.
	Veneering boards	29 per cent. ad valorem.
	Hydraulic pumps, small boats, and similar articles	24 per cent. ad valorem.
	Painters' brushes—	
	Not weighing more than 1 kilogram each dozen	48 cents per kilogram.
	Weighing more than 1 kilogram each dozen	24 cents per kilogram.
	Hair and clothes brushes (common and fine classes), tooth, nail, and clothes brushes, combs, lead-pencils, rulers with or without metallic edges, pen-holders, squares, meters, etc	89 cents per kilogram.
	Carpenters' pencils	12 cents per kilogram.
	Fine dusters—	
	Large	96 cents per kilogram.
	Small	$1.92 per kilogram.
	Furniture of common wood, as pine, chestnut, cherry, common maple, white and black poplar, painted or not, or varnished, also common frames, painted or prepared for gilding	24 cents per kilogram.
	Chairs of above woods of no more than 3⅓ kilograms' weight and rocking-chairs of no more than 5⅔ kilograms' weight each	78 cents per kilogram.
	Of less than above weights, chairs and rocking-chairs will pay same duty as furniture of common wood.	
	Furniture of wood superior to those above mentioned, as oak, walnut, mahogany, fine maple, and similar ones	43½ cents per kilogram.
	Furniture of finer woods than the preceding ones, as rose-wood, ebony, and all such kinds, gilt or with metal ornaments	58 cents per kilogram.
	The above furniture (except chairs and stools), the weight of which does not exceed 2 kilograms each piece, will pay as the preceding item, with 50 per cent. extra.	
	In furniture with marble pieces the weight of this will be included. Loose marbles and looking-glasses, although appertaining to furniture, will pay according to the item to which they belong.	
	Trunks and valises of all sizes—	
	Covered with paper, canvas, or raw leather, with or without leathern straps	4⅛ cents per kilogram.
	Covered with dressed sheep, morocco skins, oil-cloth, or any other analogous cover, when wood predominates in their construction	9⅜ cents per kilogram.
61	Wool and woolen goods:	
	Stuffing or waste wool, as generally used by saddlers	3⅜ cents per kilogram.
	Long or twisted wool, and in small ware, as buttons, tassels, laces, fringes, galloons, braids, sashes, tapes, etc., or worsted—	
	With or without wooden spools	94½ cents per kilogram.
	With iron or other metal spools or frames	43½ cents per kilogram.
	Textures of pure wool—	
	Plain:	
	Up to 10 threads	72½ cents per kilogram.
	10 to 16 threads	$1.30½ per kilogram.
	17 to 20 threads	$1.74 per kilogram.
	21 threads and above	$2.61 per kilogram.
	Light and transparent and gauze, as barege	$3.85 per kilogram.

Table showing import duties—Continued.

No.	Articles.	Duty.
61	Wool and woolen goods—Continued.	
	Textures of pure wool—Continued.	
	Plain, cross-woven, or twilled	$1.74 per kilogram.
	Mixed with cotton in the warp	$1 per kilogram.
	Mixed with silk	$2.61 per kilogram.
	Haired on one or both sides	$29 per 100 kilograms.
	Pasted or gummed, as felt, etc	$12.50 per 100 kilograms
	Cloths and cassimeres, ordinary thickness, as pilot, beaver, and such—	
	All worsted	85 cents per kilogram.
	With cotton mixed in warp	41 cents per kilogram.
	Cloths, cassimeres, and velvet, such as ladies' cloth, elasticotin, satin cloth, and analogous classes—	
	All wool	$200 per 100 kilograms.
	With cotton in the warp	$75 per 100 kilograms.
	Plain, cross-woven, twilled, or damask-like textures, rep, and all similar kinds—	
	All worsted	$1.16 per kilogram.
	With cotton or hemp in the warp	87 cents per kilogram.
	Textures of other kinds, as Brussels, camlet, flannel—	
	All worsted	72½ cents per kilogram.
	With cotton or hemp in the warp	50 cents per kilogram.
	Plush textures, with cotton, wool, or other materials mixed, as traveling blankets, shawls, etc	58 cents per kilogram.
	Stockinet textures, as undershirts, socks, stockings, gloves, caps, and goods otherwise shaped that do not constitute ready-made clothing	$1.45 per kilogram.
	Carpet textures and coarse frieze carpets, exclusive of fringes	14½ cents per square meter.
	Brussels carpeting	26$\frac{1}{10}$ cents per square meter.
	Cut or pile, like velvet	40⅜ cents per square meter.
	Handkerchiefs and shawls will pay as the preceding items, according to class, with 30 per cent. extra.	
	Ribbons and tapes, pure wool or mixed with cotton, used by saddlers, and all such articles	37⅜ cents per kilogram.
	The same for general use will pay, as to class, by assimilation to the preceding items.	
	Ready-made clothing of alpaca, orleans, merino, and other similar textures will pay as respective textures, with 100 per cent. extra.	
	Ready-made clothing of cloth, cassimere, worsted, and textures of the same kind will pay as those respective textures, with an extra charge of 200 per cent.	
62	Wire railing	$3.15 per 100 kilograms.
63	Zinc and calamine:	
	Nails	$5.20 per 100 kilograms.
	Pigs	$2.60 per 100 kilograms.
	Plates or sheets	$3.40 per 100 kilograms.
	Lamps of all sizes or shapes, polished and bronzed	$22.80 per 100 kilograms.
	Printing types	Do.

Table showing export duties.

Articles.	Duty.
Sugar, molasses, and rum	Free.
Honey	$5.62½ per 100 gallons.
Wax:	
White	$4.50 per 100 kilograms.
Yellow	$3.37½ per 100 kilograms.
Tobacco:	
Leaf	$6.30 per 100 kilograms.
Scraps	$3.75 per 100 kilograms.
Cigars	$1.35 per thousand.
Cigarettes	90 cents per 1,000 packages.
Timber*	8 per cent. ad valorem.

*X, 20 per cent. less; XX, 25 per cent. less.

RAMON O. WILLIAMS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Havana, December 19, 1890.

GREEK MINING AND METALLURGY.

REPORT BY CONSUL MANATT, OF ATHENS.

SCOPE AND SOURCES.

The Department's circular of August 14 calls for specific information only regarding the lead and zinc mining industry and the commerce in those metals in this district; but the search for such information has necessarily involved a considerable study of the whole subject of mining and metallurgy in Greece. The results of this study can hardly fail to have a certain interest and value for our own miners, and they are therefore presented in some detail, followed by a summary statement of the facts asked for, as far as they can be obtained or deduced.

Two difficulties stand in the way of a thoroughly satisfactory report on either of these lines. In the first place, statistical science in Greece is still in its infancy, and the figures always at hand in other countries must here be laboriously worked up. In the second place, the subject-matter, largely technical, must be studied through foreign languages, all the accessible authorities, whether persons or publications, being Greek, German, or French. For one who is neither a geologist nor a metallurgist this is a very serious disadvantage.

In the preparation of this report I have relied upon the publications of the Hellenic Government, of the Hellenic Mining Company, of the French Société des Mines, of Laurium, and especially upon the following works: "Le Laurium, par André Cordella, Ingénieur des Mines, Marseille, 1869;" "Le Laurium, par A. Cambresy, Ingénieur de la Société Minière de l'Olympe Lauriotique, Liege, 1889;" "Berg-, Hütten- und Salinenwesen von Griechenland, in der National Ausstellung von Athen, 1888, von Prof. Dr. Constantin Metsopoulos." The last two works, prepared in connection with the late national exposition—the fourth olympiad in the modern series—are still fresh, and have been of the greatest service to me. Indeed, in matters technical I have attempted nothing more than to sum up concisely their more important results.

But I have also visited, for the third time, the Laurium region, gone through the principal mine, witnessed the processes of extracting, dressing, and smelting the ores, and conversed with some of the leading operators. My acknowledgments are especially due to M. Cordella, director-general of the Hellenic company, and the officials of the French company; to Messrs. Dambergas and Skiadas, chiefs, respectively, of the bureaus of mining and commerce in the home department; to M. Kalogeropoulos, curator of the Boulė Library; and to Dr. Deffner, of the National Library.

GREEK MINING IN ANCIENT TIMES.

Any report on mining in Greece must be largely historical. The mines of Laurium, now worked for zinc, lead, and iron, are the very mines from which Themistocles drew the silver supply to fit out his fleet and beat back the Persian invader at Salamis (490–480 B. C.), and so to lay the foundations of the Athenian hegemony. More than this, it is thought probable that the Phenicians delved here before the Greeks came, as they are known to have done in the island of Thasos. At any rate, Thoricus was a free city before Theseus welded the Attic boroughs into a single commonwealth (that is to say, before the name of Athens appeared in history), and its importance must have been due to the mines; so that the mining industry at Laurium may possibly boast an origin as remote as thirty centuries back, while it is again in full blast to-day. In walking through the French company's great mine at Camaresa, in the heart of the Laurium region, one traverses here a gallery in active exploitation for zinc and lead and hard by another worked out by the old Greeks two or three thousand years ago. These ancient works are among the most interesting monuments of Hellenic civilization. At Laurium are found two thousand ancient shafts, with their connected galleries. These shafts average about 2 meters square (the round shaft is almost unknown) and are sunk from 20 to 120 meters in depth, but never below sea-level. The galleries open into ancient chambers, sometimes 30 feet high and 150 feet wide. According to M. Cordella's estimate, the ancients extracted from these mines a mass of mineral amounting to 105,000,000 cubic meters and yielding 2,100,084 tons of lead and 8,400 tons of silver, or a value of 4,171,378,600 drachmas.* The work employed steadily about 15,000 laborers—3,000 in the mines themselves—almost exclusively slaves. The earthen lamps, water-jugs, and picks found in our day in some of the low, tortuous passages, through which a man must work his way on hands and knees, have a pathos of their own. Slaves were cheap and the labor problem easy at first. Proprietors worked their own slaves or hired other people's at an obol per day—say 55 drachmas a year (a saddle-horse in Athens now brings 200 drachmas per month)—and the price of slaves ranged from 45 drachmas upward, according to quality. The pious old general Nicias had a thousand slaves hired out in the Laurium mines, perhaps at the very time when he was sacrificing the flower of the Greek race before Syracuse to the changes of the moon; and the remnant of his beaten army only had a taste of poetic justice when they lay rotting as prisoners in the Sicilian stone quarries. Labor grew dear, however, notwithstanding humanity was cheap, for food constantly advanced. The medimmus (34 to 35 kilograms) of wheat, sold in Solon's time for a drachma, had risen to 2 or 3 drachmas in the days of Aristophanes, to 5 or 6 in Demosthenes's life-time, and still later to 18. And so, underfed and overworked and buried alive in the bowels of the earth, the slaves at last revolted. According to Thucydides, twenty thousand of them escaped to the Spartan camp at Deceleia during the later years of the Peloponnesian war. That their lot was a cruel one goes without saying. Blasting powder was a thing of the distant future and hoisting machinery practically unknown. The pulley may have been used in vertical shafts, but, as a rule, the ore—every bit of it chipped out with pick and hammer—had to be carried up in goat-skins on the slaves' backs.* It could have been no picnic for the slaves, who in this way "toted" more than 100,000,000 cubic meters of ore up through the tortuous passages and galleries of these ancient mines. It was dangerous business, too, as one may infer from the fact that contracts were made—not to return the stock in safe and sound condition, but only to make the number good.

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* The Greek units used in this report are: Drachma = 19.3 cents; lepton = 0.01 drachma; oke = 1.28 kilograms, or 2.83418 pounds avoirdupois.

The mines were State property, and were let out to citizens on a perpetual lease, which was alienable or heritable—in effect, a sale subject to a rent varying with the production. This was at the rate of a twenty-fourth of the output, and the revenue resulting was at first distributed to the citizens. In Themistocles's time (say 489 B. C.) the annual per capita dividend was 10 drachmas, or a total of 200,000 drachmas, indicating an annual yield of 4,800,000 drachmas. By inducing his countrymen to suspend this distribution and devote the money to building up a navy, Themistocles saved Greece at Salamis. More than that, he prepared the conditions, not only of the transient commercial and political supremacy, but of the enduring intellectual empire of Athens. But the ravages of the Peloponnesian war, ending in the humiliation of Athens, operated disastrously on the mining industry. It seems to have been carried on but fitfully during the Spartan, Theban, and Macedonian supremacies, and to have quite died out in the Roman times; at least, Pausanias (in the second century) passes Laurium with the single remark that "the Athenians once had silver mines there." From that time to our own day the mines seem to have been abandoned.

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* One sees very much the same thing in Greece to-day. In the archæological excavations the workmen carry out the earth in baskets, and in building the rough stones are loaded directly on the stooping laborer's back and so carried to their place in the wall. Only a few days ago I saw gangs of men engaged in this slavish labor at Laurium in the construction of the French company's great works for washing the Camaresa ores.

MODERN MINING AND METALLURGY.

Topography and geology of Laurium.—The ancient mining and metallurgy were far from being exhaustive; and so, notwithstanding an exploitation of seven centuries of which we have historical record (from the sixth century B. C. to the second century of our era), the last thirty years have seen the old mining region yielding a new harvest. Two fields remained for modern exploitation, viz: (1) The utilization, by modern processes, of ores rejected or imperfectly worked by the ancients; and (2) mining for new ores. Hence the operations now carried on at Laurium are of two kinds: (1) The working over of ancient slag and refuse (known as scoriæ and ecbolades); (2) the extraction and treatment of new minerals. To understand either there is needed a brief account of the mining region itself.

The district known by the name of Laurium comprises the southeastern projection of Attica, a wild mountain region forming a rude triangle, whose apex is Cape Sunium and the base a line drawn from ancient Anaphlystus, on the west coast, to Thoricus, on the east. The total area may be about 80 square miles, and the altitudes range from 19 to 635 meters above the sea-level.

The shores are much indented and offer numerous landings and harbors, of which the most important are those of Laurium, Thoricus, and Sunium. The first two of these are well-sheltered harbors, the first of them in a high state of improvement, and both of them have railway communication with Athens, as well as direct steam-ship connections with Europe and America.

Geologically it is one of the most interesting regions in the world. The entire absence of fossils—not even a trace of one being authenticated after a careful search of twenty-five years extending to nearly every square meter of surface—as well as the extensive local action of metamorphism, renders geological determinations difficult and doubtful.

Generally speaking, the region consists of an alternation of mica-schists and marbles; but other rocks, partly eruptive, occur, *e. g.*, diorite, trachyte, eurite, and granite. An ideal section (as given by Mitsopoulos) shows the following stratification:

(1) Upper iron-bearing marble (Sunium and elsewhere), forming many hill-tops.

(2) Upper clay mica-schist, partly decomposed, showing white mica.

(3) Middle marble, with irregularly ordered ore masses. (Between 2 and 3 lies first contact vein, carrying mainly iron ores impregnated with galena and cerusite.)

(4) Lower mica (Camaresa and elsewhere), 20 to 25 meters in thickness. (Between 3 and 4, second contact, carrying, in the north of the district, manganese iron ores, and, in the south, siderite, calcite, fluorite, and fine-grained argentiferous galena.)

(5) Secondary marble stratum, 25 to 30 meters thick, impregnated with sulphur pyrites and galena. (Between 4 and 5, secondary contact.)

(6) Secondary mica-schist, 5 to 7 meters thick.

(7) Saccharvid marble of unknown* thickness, largely worked out by the ancients, but still abounding in nests and blocks of zinc spar. (Between 6 and 7 lies third contact, half a meter to 12 meters thick, consisting of galena and cerusite.)

The minerals of chief commercial importance occurring at Laurium are zinc, lead, and manganese.

Zinc is represented mainly by calamine, or, more accurately, by smithsonite, which is found in nearly all marble and mica-schists. It occurs in the most varied forms: sometimes in crystalline, mammillated masses, very fine, white, translucent, pearl gray, greenish, bluish, or with a reddish-brown coating; sometimes in stalactite masses and mixed with iron oxide; sometimes in the form of translucent pearls of a very beautiful green—probably the "emeralds of Laurium" mentioned by ancient authors. Zinc-blende also occurs in very great quantities associated with galena, from which it can be separated only by grinding to fine sand. Although lying on the surface and known to the ancients, the zinc ores attracted little attention at Laurium until twenty years ago; now they are its most important product.

Lead is represented by two principal species—galena and cerusite. Galena rarely occurs in large masses, but rather in pockets (*rognons*) never exceeding 0.20 m. cube. It is usually mixed with blende alone, or with blende and iron pyrites; always argentiferous, the silver averaging from 1½ to 4 kilograms to the ton of lead; also, with a small proportion of gold, estimated at 10 per cent. of the silver contained. Among the impurities are arsenic and antimony. Cerusite (white lead) occurs ordinarily in earthy form, colored more or less by iron oxides, but found, also, in lead-bearing iron ores. Generally it contains less silver than the galena, probably because in the decomposition of galena (the supposed origin of cerusite) the silver has been liberated in very fine powder and washed away.

Manganese is present in all the iron ores in a variable proportion, reaching as high as 12 to 14 per cent. The varieties of color and texture are very numerous. The manganese ores of Laurium and Seriphus already constitute a considerable industry and are used in making Bessemer steel.

These are only the chief commercial ores. The variety of mineral species occurring at Laurium, as well as their beauty, can hardly be indicated here. But the collection of M. Cordella, the chief authority on the subject, contains 430 distinct specimens, and the cabinet of the university has a collection of Laurium minerals numbering a thousand specimens.†

Treatment of ancient slag and refuse by the Hellenic company.—In 1860, after seventeen centuries of neglect, Laurium entered upon a new era of exploitation. A French company obtained concessions and began to clean up after the ancient exploiters by applying more perfect processes to the slag and refuse they had left upon the surface still rich in metal. The ancients, mining chiefly for silver, left the lead ores largely, and the zinc ores quite, intact. The moderns mine chiefly for lead and zinc, and silver is only a secondary product. The French company was soon gleaning annually from this ancient waste 8,000 to 10,000 tons of lead containing 12 to 22 ounces of silver to the ton, and its successor (the Hellenic Mining Company, of Laurium) has since maintained about the same average. Though in the nature of things this surface industry is limited in extent and declining in importance, it is a subject of great historical, as it may become one of great practical, interest for other mining countries. Some account of it must therefore be given. The matters operated upon are known as ecbolades and scoriæ. The ecbolades are the ores rejected before smelting by the ancient operators. To lessen the burden of bareback transportation from the bowels of the earth, the ores were first sorted in the mine and only the richer were carried out. Then, at the surface, on resorting and washing, still more were rejected, thus forming surface heaps all over Laurium. Hence the classification into interior and exterior ecbolades, of which the latter, with the ancient scoriæ, constitute the original concession of the Hellenic company, while the former naturally go with the concession of the mines in which they are found, *i. e.*, chiefly to the French company.

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* This has been explored down to sea-level without reaching its limit; it appears to rest on granite.

† Among others, Mitsopoulos enumerates hematite, iron spar, copper, cyprite, copper pyrites, iron pyrites, malachite, azurite, ocher, pyrolusite, symplesite, adamine, annabergite, serpierite, allophane, buratite, euchroite, phosgenite, atacamite, vanadinite, mispickle, rhodochrosite, scorodite, alloisite, quartz, baryta, calc-spar and stalactite, aragonite, disthene, gypsum, hisingerite, anthraconite, oligonite, and amiant.

Most of the ecbolades contained an average of 5 to 6 per cent. of lead, but some specimens have assayed as much as 17 to 18 per cent., these probably dating from a very early and imperfect stage of mining development. The Hellenic Government's commission for fixing the value of this surface concession estimated the quantity of ecbolades lying on the surface of Laurium at 60,000,000 tons, but they are nearly exhausted now. A year ago M. Cordella, in his report, estimated the residue belonging to his company at 3,500,000 tons containing 3 to 6 per cent. of lead and 1,200 to 4,000 grams of silver to the ton of lead. They are first roughly sifted on the spot and then transported to the washer at Ergasteria (Laurium), where they were formerly enriched to an average of 18 per cent. of lead, which has now fallen to 10 to 10½ per cent., as the richer ecbolades are exhausted.

The interior ecbolades, having been subjected neither to grinding nor washing, nor in any great measure to the action of the elements, represent, accurately enough, the lower grades of ores worked by the ancients. Though less rich in lead, they are richer in silver than the exterior.

The scoriæ, or slag, from the ancient smelters were already undergoing a second smelting in Strabo's time (first century of our era), but considerable still remained when the present exploitation began. Two years ago Professor Mitsopoulos estimated the residue at 2,250,000 tons containing 2 to 10 per cent. of lead and 1,000 to 2,000 grams of silver to the ton of lead. This is now said to be pretty well exhausted, but very rich scoriæ are still obtained by dredging the adjacent sea. In two years and a half (1888) about 100,000 tons of this has been taken out at a cost of 7 drachmas per ton, and one contractor is now delivering it to the Hellenic company at the rate of 1,000 tons per month.

The typical composition per ton of the ancient scoriæ and exterior ecbolades is shown by the following analysis:*

Description.	Scoriæ.	Ecbolades.
	Per cent.	*Per cent.*
Silicic acid	30.45	37.40
Aluminum	4.82	3.40
Chalk	19.49	16.30
Magnesia	2.21	1.20
Ferreous oxide	15.45	1.10
Ferric oxide	1.85	9.40
Oxide of manganese	0.93	
Oxide of lead	11.50	5.50
Oxide of zinc	6.22	3.67
Arsenic acid	1.20	3.45
Antimony acid	0.80	0.80
Oxide of copper	0.66	0.45
Sulphuric acid	1.10	2.90
Phosphoric acid	0.45	0.05
Potash	2.17	
Water		9.97
Carbonic acid		4.20
Fluor		(*)
Silver	(†)	(‡)

*Traces. †50 grams. ‡50 to 90 grams.

This analysis shows the typical composition; but the scoriæ smelted at Ergasteria vary greatly in richness of lead—the poorer being the result of re-smelting early in our era, the richer of the original ancient smelting. Of the latter are the scoriæ obtained by dredging Vrysaki Bay, adjoining Thoricus, their richness testifying to the imperfection of the ancient process. The ecbolades, also, vary widely, as has been shown.

It remains to speak of the treatment of these materials by the Hellenic Mining Company, of Laurium, to whom this surface concession belongs.

For the preparation of the ecbolades the company have extensive works at Ergasteria, the water being pumped up from the sea into an elevated basin containing 1,100 cubic meters. To these works the ecbolades are brought by the company's railway, and here they are classified and washed. The great washer is lighted by electricity, and contains 42 drums, 350 jiggers, 72 *Spitzkasten*, and 8 *Rundherde*. It employs about 300 men at 2½ to 3 drachmas per day and every twenty-four hours washes 1,000 tons of ecbolades (containing 3 to 5 per cent. of lead and 1,200 to 1,700 grams of silver to the ton of lead), which yield for the smelter 300 tons averaging 10 to 10½ per cent. of lead. Of these products, about one-third (100 to 120 tons) is slime, or sediment, containing only 6 to 9 per cent. of lead. This is made into bricks and sun dried before it goes to the smelter.

The smelting process first introduced was very wasteful, nearly half the lead being lost; but about twelve years ago the Pilz furnace, with certain modifications, was substituted for the old Spanish *Herdöfen*. Fourteen of these are now in use. In the year 1888 the smelter treated 130,901 tons of minerals, producing 10,469 tons of argentiferous lead, valued at 4,808,753 drachmas, at a total expenditure of 3,867,299 drachmas, leaving a net profit of 941,154 drachmas. In the three years 1886–'88 the cost of raw material advanced from 177 drachmas to 203 drachmas per ton, while the cost of smelting was reduced from 182 drachmas to 137 drachmas.

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* Cambresy, Le Laurium, p. 136.

The following table shows the composition of the smelting bed (*lit de fusion*) and the annual distribution of ores and fluxes:

Composition.	Percentage of 130,000 tons.	Quantity.
	Per cent.	*Tons.*
Ancient scoriæ	20	26,000
Grenaille and sand from washing	12	15,600
Bricks of slime mixed with "lead smoke"	30.5	39,650
Galena	1.5	1,950
New iron-bearing scoriæ, as flux	15	19,500
Manganese and lead-bearing iron ore	21	27,300
Total	100	130,000

From this it appears that 46,800 tons of ferruginous fluxes were used in smelting 83,200 tons of proper lead-bearing ores. Smelting annually about 130,000 tons with an average richness in lead of less than 10 per cent., the works produce only 10,000 to 10,500 tons of lead containing 1,100 to 1,500 grams of silver per ton, and this at a total cost of 3,367,299 drachmas. These results are far from satisfactory to the distinguished director-general, M. Cordella, who, after a long tour of observation in Germany, has submitted plans for improving and enlarging the works and facilities of his company at an outlay of 2,000,000 drachmas, and these plans have been adopted and are about to be undertaken.

These improvements promise not only a great reduction in the cost of smelting, but also the profitable treatment of low-grade stuff now useless. By a better process of ore dressing, it is claimed, the 130,000 tons now going annually to the smelter may be reduced to 30,000 or 40,000 tons, with an average richness of 40 to 50 per cent. of lead, at an annual net saving of 1,000,000 drachmas; and the utilization of low-grade ores by better processes may give a new lease of life to the industry of Laurium. The ancient scoriæ may be replaced in large part by the modern slag, which still contains 4 to 4½ per cent. of lead and is found in considerable quantities near the works.

Until quite recently all the Laurium lead was sent abroad to be desilverized, but the Hellenic company have now established small works in connection with their smelter, where they are preparing from 500 to 1,000 tons of lead annually for use in Greece by the few manufactories of shot and pipe now existing here.

In addition to the concession of this ancient surface waste, the Hellenic company has acquired lead and iron mining properties in Greece, Macedonia, and Asia Minor, which insures its perpetuity after this is exhausted.

Its mines in the Laurium region are two, viz:

(1) The Nicias Mine, in the northeastern part of the district, with rich veins of manganese iron ore and argentiferous galena. The annual output is 50,000 tons of manganese (30 per cent. of iron and 18 to 20 per cent. of manganese), 15,000 tons of ferruginous lead ores (4 to 6 per cent. of lead with 1,800 to 2,000 grams of silver to the lead ton), and 500 tons of galena with 2,000 grams of silver each.

(2) The Lauriotic Olympus, producing annually 9,000 tons of lead-bearing iron ore with 6 to 8 per cent. of lead and 800 to 1,000 grams of silver to the lead ton. This is used for smelting ecbolades.

The official reports of the company for the past five years give the following figures of production of lead:

Year.	Quantity.	Quantity of silver per ton.	Cost of production per ton.
	Tons.	*Grams.*	*Drachmas.*
1886	9,371	1,319	380.71
1887	9,750	1,321	369.53
1888	10,451	1,305	370.00
1889	9,422	1,467	387.00
1890 (to July)	4,333	......	407.00

The increased proportion of silver not only offsets the increase in cost of production, but leaves a margin for profit.

This company owns the narrow-gauge railway from Athens to Laurium, with branch line to Cephissia (about 46 miles in all), and about 12 miles of narrow-gauge railway for carrying minerals to its works. In its service at Laurium it employs some 1,700 men. These have an organized relief fund based on a reserve of 1 per cent. of wages, while the company charges itself with the maintenance of a hospital, physicians, and pharmacist at an expense of about 1,300 drachmas per month.

Operations of the French company in the extraction and treatment of new ores.—Mining proper in this region is largely in the hands of the French Mining Company, of Laurium. This company was formed at Paris in 1875 with a capital of 16,300,000 francs in 32,600 shares of 500 francs each. It owns the entire central area of Laurium (54,000 acres) and employs 2,200 to 2,500 men. Its main business is the mining of rich zinc ores, which it calcines and then ships to Belgium, owing to the great cost of making spelter here; but it also mines a considerable quantity of lead and manganese.

This company has entered into the labors of its ancient predecessors; it had only to find their shafts and clear out their galleries to have a mine in full swing. Great masses of ore mined twenty to twenty-four centuries ago (the interior ecbolades) lay ready to be carried to the surface, and the old galleries lighted the way to new discovery.

The Camaresa mine has now a depth of some 600 feet, and its galleries aggregate some 50 miles in length. Two-thirds of this distance is provided with a narrow (20-inch) railway for carrying out the ore. A single horse draws a train of half a dozen or more "iron dogs" carrying 1 to 1½ tons each—a very different matter from the bareback transportation of the ancient times. The circulation of air is almost as free as above ground, and there is little damp. This mine employs 900 men, 600 of them under-ground, and yields monthly 3,500 to 7,000 tons of raw calamine, 2,500 to 3,000 tons of lead ore, and 2,000 tons of mixed ores.

The outlying mines, less developed, employ 800 men and are worked chiefly for manganese, some of which finds its way to the United States.

Of the calamine taken out at Camaresa, a part is calcined on the spot by a battery of six keeve and two reverberatory furnaces, but the company's main works are at Cypriano, adjoining Laurium. The works are connected with Camaresa (a distance of 6 miles) and the outlying mines by a little railway, which brings down all the ore produced—calamine (calcined or raw), lead, etc.

The works at Cypriano comprise:

(1) Reduction works similar to those of the Hellenic company for enriching mineral oxides and separating mixed minerals (325 workmen).

(2) The smelter with nine large keeve furnaces (240 men), treating mainly low-grade lead ores (8 to 12 per cent.), as it is found advantageous to send the high-grade ores to European works. The minerals treated here being calcareous, the fluxes used are siliceous—contrary to the practice at Ergasteria.

(3) Calcining works, employing 40 men and producing annually 30,000 to 40,000 tons of calcined ore containing about 55 per cent. of zinc.

There are also machine-shops, forges, testing laboratory, store-houses, offices, workmen's cottages—even a Roman Catholic church, as many of the laborers are Italian; and the company has its own wharf with every facility for rapid lading, storage, etc.

The operations of this company, as gathered from their reports for the years 1886–'89, may be exhibited as follows:

Year.	Quantity of lead produced.	Quantity of ores prepared for export.*	Capital invested.	Annual dividend.	Dividend per share.†
	Tons.	*Tons.*	*Francs.*	*Francs.*	*Francs.*
1886	2,981	49,991	21,414,484	1,171,758	32.50
1887	2,778	59,488	21,700,976	1,171,758	32.50
1888	4,784	59,011	22,308,245	1,276,380	35.00
1889	5,074	49,394	21,546,504	1,276,380	35.00

* Calcined zinc ores mainly, but including a limited quantity of high-grade galena. The production of calcined calamine averages from 30,000 to 40,000 tons a year.

† On 500-franc shares.

The employés of this company number 2,200 to 2,500, and, as in the case of the Hellenic company, form an association for relief in case of illness or accident. The relief fund is based on a reserve of 17 per cent. of wages for single men and 2 per cent. for married men, and the company provides a hospital and lodgings for attendants. The directory is selected from employés of two years' service, with the company's director as chairman. The administration of relief seems humane and wise.

Beside the two important companies whose operations have been given at some length, there are others doing a less considerable business. Mr. Desposito, the vice-consul for Great Britain and Austria at Laurium, is working a very rich zinc mine near Sunium, which now yields 400 tons of calamine per month. This calamine, when calcined, contains 68 per cent. of zinc and is readily sold to an Antwerp house at 240 francs per ton. Mr. Desposito is also mining manganese in the Daskalio district and making shipments to Philadelphia.

Mineral wealth of the Kingdom outside of Laurium.—While this report concerns, primarily, the mines of Laurium, there must be added a brief account of the mineral wealth of the Kingdom at large.

The principal products not already mentioned are magnesite, asbestos, sulphur, emery, and marble.

Magnesite of excellent quality occurs abundantly in Eubœa, as also in Phthiotis, about Corinth, and on the island of Spetsae. The annual production of Eubœa is given at 7,000 tons, worth 22 francs per ton.

Asbestos occurs also in Eubœa (where Strabo had noted it) and in the neighboring islands, as well as in the near vicinity of Athens; but no mines have yet been opened.

Sulphur occurs in very rich mines on the volcanic island of Milo. The beds, sometimes 20 meters in thickness, consist of decomposed trachyte impregnated with 32 per cent. of sulphur. In spite of wasteful processes, 1,500 to 2,000 tons are produced annually, all of which is sold in Greece to the vine-growers at 125 drachmas per ton.

Emery is found in the Cyclades generally, and the island of Naxos is especially famous for it. The State owns the mines, which it leased for twelve years (1878–'89), the lessee being required to export annually 40,000 cwts. and to pay into the treasury 12.20 drachmas per cwt., or 488,000 drachmas per annum, for the concession.

Greece is the land of marble *par excellence*. So far seventy-two varieties of color and structure are noted. Pentelic and Parian are known the world over, but some of the most exquisite marbles are found in obscure islets and still unknown abroad. For sculpture, those of the little island of Skyros are regarded by connoisseurs as the best in Greece and equal to Carrara. Of marbles for building, walling, and paving there seems no limit, either in abundance or variety, and often they can be quarried on the spot where they are needed. The ancient sea-wall of the Peiraó peninsula—much of it as perfect to-day as when the stones were laid—was built up almost out of the rock on which it stands; and so was the Temple of Athena, at Sunium, and the theater and other constructions at Thoricus. It is to the superb quality of the material, as well as to the benignity of climate, that the world owes the marvelous preservation of the Parthenon, the Propylæa, and the Theseum, at Athens.

COMMERCE OF GREECE IN MINE PRODUCTS.

The following tables, carefully compiled from the reports of the Government bureau of commerce present a clear view of Greek trade in mine products generally, and particularly in lead and zinc:

1. *Table showing imports of minerals and metals for 1889.*

Description.	Quantity.	Value.	Duties paid.	Whence imported.
Raw.	*Okes.*	*Drachmas.*	*Drachmas.*	
Lead	85,460	34,184	9,827	France (three-fifths), England, Italy, Austria.
Zinc	84,383	42,196	9,069	England and Belgium (seven-eighths), France, Austria.
Iron	5,883,853	891,415	1,115	England (six-sevenths), Belgium (one-ninth).
Steel	285,690	399,996	1,957	England (two-thirds), Austria one-fourth).
Tin	44,891	118,311	10,323	England.
Copper	126,664	243,994	54,685	England (eleven-twelfths), France, Austria, Belgium, Turkey.
Bronze	8,171	16,342	2,818	England (seven-eighths), Austria, Germany, France.
Silver	83	12,450	....	Germany (eleven-twelfths), Austria.
Coal	100,938,735	5,046,936	(*)	England (ninety-nine one-hundredths), Belgium.
Sulphur	7,187,554	472,653	....	Italy.
Petroleum	†194,000	1,666,520	....	United States.
Mineral waters	59,456	29,728	12,554	Turkey (three-fifths), Austria (one-fourth), Italy, Germany, England.
Miscellaneous	5,712,154	228,486	61,439	Turkey, England, France, Italy.
Manufactured.				
Lead	274,657	425,717	61,426	France and Austria (three-fourths), Italy, England, Germany.
Zinc	14,639	43,195	4,578	England (three-sevenths), Belgium, Austria, Germany.
Iron:				
Simple manufactures.	6,550,567	5,109,422	323,583	England, Holland, and Austria (five-sixths), France, Belgium, Germany.
Motors and pumps	‡3,382,031	719,399	5,379	Germany and England (three-fourths), France, Holland, Austria, Italy, Turkey, United States (1,370 francs).
Domestic machines	§8,169	222,867	5,739	Germany, Austria, France, United States (437 machines, 30,590 francs), England, Belgium.
Steel	55,534	316,543	29,557	England, France, Germany, Austria.
Tin	6,008	39,052	3,642	Germany and Austria (two-thirds), France, England.
Copper	13,435	61,128	3,198	England (two-thirds), Austria, Turkey.
Bronze	36,526	438,312	51,204	France, Germany, England, Austria.
Silver	‖96,330	62,214	11,655	Germany (one-half), Austria, France, England.
Gold or platinum	‖23,816	130,998	10,954	Germany, England, Austria, France.
Miscellaneous	¶99,877	43,649	5,086	Do.
Alloys	6,998	36,738	80,477	Austria, France, Germany, England.

* Free.
† Cases.
‡ 1,741 pieces.
§ 2,876 pieces.
‖ Drachmas (1 drachma=15.432 grains).
¶ 4,138 pieces.

2. *Table showing exports of minerals and metals for 1889.*

Description.	Quantity.	Value.	Destination.
Raw.		*Drachmas.*	
Lead...tons...	13,394	7,640,724	England (two-thirds), France (one-fourth), Italy, Belgium.
Galena...do......	1,630	736,770	Belgium.
Zinc:			
Calamine...do......	27,155	4,670,000	Belgium (two-thirds), France (one-fifth), England.
Blende...do......	15,219	2,384,164	Belgium.
Manganese...do......	111,862	1,789,792	England (two-thirds), Holland, Belgium, United States.
Pouzzolane...do......	47,000	373,838	Turkey.
Emery...quintals...	31,716	380,592	England.
Gypsum...do......	182	1,638	Italy.
Marbles...cubic meters...	1,544	200,720	Turkey.
Millstones...pieces...	6,400	224,000	Do.
Naphtha...okes...	31,900	28,710	Do.
Miscellaneous...tons...	47,159	369,588	Turkey, Belgium, England.
Manufactured.			
Marbles...cubic meters...	72	18,000	Turkey (five-sixths), Russia.
Machines...okes...	11,757	11,757	Turkey.
Silver coin:			
Greek...pieces...	2,838	2,400	Austria, France, England, Italy.
All countries...do......	49,820	238,332	France, Turkey, Austria, Egypt, England.
Gold (all countries)...do......	217,165	4,916,426	Turkey, France, Austria, Egypt, Roumania.
Miscellaneous metals...okes...	84,613	259,239	Turkey.

3. *Table showing exports and imports of lead and zinc for the first eight months of 1890 as compared with the year 1889.*

EXPORTS.

Mineral.	1890.*		1889.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	*Drachmas.*	*Tons.*	*Drachmas.*
Lead...	9,049	4,903,566	13,394	7,640,724
Galena...	1,770	800,240	1,630	736,770
Zinc:				
Calamine...	22,650	3,551,800	27,155	4,670,000
Blende...	1,950	304,200	15,219	2,384,164

IMPORTS.

Lead:	*Okes.*		*Okes.*	
Raw...	47,184	19,002	85,460	34,184
Manufactures...	70,390	43,748	274,657	425,714
Zinc:				
Raw...	42,672	21,331	84,383	42,196
Manufactures...	1,936	8,316	14,639	73,195

*To September 1.

4. *Table showing origin of lead and zinc imports for 1889.*

Countries.	Raw.		Manufactured.	
	Quantity.	Value.	Quantity.	Value.
	Okes	*Drachmas.*	*Okes.*	*Drachmas.*
Lead:				
France	56,773	22,709	109,822	170,224
Austria	4,118	1,648	106,633	165,327
England	18,195	7,278	11,338	20,624
Italy	6,374	2,549	28,594	44,[illegible]21
Germany	....	....	11,533	17,907
Turkey	....	....	3,284	5,[illegible]
Belgium	....	....	1,703	2,174
Zinc:				
England	39,229	19,616	6,275	31,375
Belgium	33,930	16,965	3,790	18,950
France	6,999	3,500	649	3,245
Austria	3,381	1,690	2,217	11,085
Germany	454	227	1,639	8,195
Italy	395	198	69	345

5. *Table showing the destination of lead and zinc exports for 1889.*

Minerals.	England.	France.	Italy.	Belgium.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Lead	8,732	3,001	1,678	583
Calamine	3,372	5,780	....	18,003
Galena	....	....	....	1,630
Blende	....	....	....	15,219

6. *Table showing the balance of trade in mineral products for 1888 and 1889.*

Description.	1888.	1889.
	Drachmas.	*Drachmas.*
Total value of imports	12,673,020	17,335,645
Total value of exports	11,888,805	16,393,729
Adverse balance of trade in mineral products	784,215	941,916

7. *Table showing customs duties on lead and zinc imports into Greece.*

Minerals.	Duty.
Lead and manufactures of lead:	
Lead type and printers' ornaments	Free.
Lead mixed with other metals, in pigs, bars, and sheets	10 lepta per oke.
Tubes, plates, and sheeting for roofs	15 lepta per oke,
Balls, bullets, and shot	20 lepta per oke.
Fancy articles and toys	5 drachmas per oke.
Zinc and manufactures of zinc:	
Zinc in plates, combined with other metals, for ship-building, also nails, screws, etc	Free.
Zinc mixed, calcined calamine, raw zinc in pigs, lumps, or sheets, with alloy	10 lepta per oke.
Simple articles in coarse work, also buttons of zinc or alloy with zinc predominating	40 lepta per oke.
Simple articles of fine work, including buttons, simple, plated, or enameled, or mixed with more valuable metals	1 lepta per oke.

While the balance of trade in total mineral products is against Greece (Table 6), it is shown by Table 3 that for the first eight months of the present year she has exported about a hundred times as much lead and zinc (in value) as she has imported. For the preceding year (Tables 1 and 2) the value of the lead export was only about twenty-five, and of the zinc export about sixty, times that of the corresponding imports. The great difference as regards lead is attributable to the establishment of desilverizing works at Laurium.

SUMMARY.

Some of the results of this study may now be summed up in the form of answers to the Department's inquiries:

(1) The general depth of lead and zinc mining in this country is greater than in the past, but no exact figures can be given.

(2) Lead ores (new) contain about 9 per cent. of lead and 1,800 grams of silver to the lead ton; ecbolades, 3 to 6 per cent. of lead and 1,200 to 4,000 grams of silver to the lead ton; zinc ores, 40 to 50 per cent. raw and 55 to 68 per cent. calcined.

(3) The average percentage of lead obtained by smelting (as reported by the French company) is 8 per cent.

(4) The Pilz process is used in smelting lead ores.

(5) No spelter is made is Greece. Zinc ores are calcined here and shipped to Belgium, France, and England for further treatment.

(6) I can get no satisfactory information as to the value of ore per ton at the mines.

(7) There is a large surplus production of lead and zinc ores (see table of imports and exports above), which is exported to England, Belgium, France, and Italy. (See Table 5.)

(8) The production of new ores is increasing, though the aggregate industry is about stationary, owing to the exhaustion of the ancient refuse.

(9) The wages of miners vary from 3 to 4.20 drachmas per day—say, at present value of currency, 48 to 67 cents.

(10) Since recent introduction of desilverizing process at Laurium, a considerable part of the lead consumed in Greece is of purely domestic origin, but much of the finished lead and all the zinc are still imported (see Table 3 above): raw lead, in pigs, bars, plates, and sheets; manufactured lead, in type, pipe, shot, etc.; raw zinc, in pigs and sheets; manufactured zinc, in nails, pins, screws, and buttons of alloy in which zinc predominates.

(11) So far as known, none of the raw or manufactured lead and zinc consumed in this district is of American origin. The origin of lead and zinc imported into Greece in 1889 is shown in Table 4. This table indicates at a glance what competition our producers must deal with if they are to find a market in Greece, as well as the nature of the market for raw and manufactured stuff. It shows that the imports of lead manufactures stand to those of raw lead in a ratio of 3¼ to 1 in weight and about 12½ to 1 in value. As the facilities for desilverizing improve, the importation of raw lead will practically cease.

The only way to a market for our lead in Greece must be sought in supplying manufactured articles which shall compete in price and utility with those now imported from Europe. Cheap ocean freights and manufactures valuable for workmanship rather than weight are essential to successful competition over so great a distance. The zinc market is still open to the world for both raw and manufactured metal; but it is not an important market, and probably Greece will have mastered the difficulties in the way of working her own ores before American products could fairly get a foot-hold in the country.

THE FUTURE OF THE MINING INDUSTRY IN GREECE.

Mining and metallurgy in Greece are at a great disadvantage in certain respects, but with some countervailing advantages. In the first place, the developed mineral area is small and its wealth far from intact. Yet there seem to be sufficient ores still left at Laurium to guaranty the continuance of a moderately profitable industry for many years to come if only capital, enterprise, and skill unite in utilizing the best methods of mining and metallurgy. This the leading companies seem determined to have done, as the great improvements now projected or in progress bear witness. Their aim is to establish works and introduce processes which shall make Laurium the center of metallurgical operations for the Levant, even after the exhaustion of its own mines. To this end they possess and are acquiring important mining properties in Macedonia and Asia Minor.

A further disadvantage, and most serious, is the total absence of coal in Greece. Lignite, indeed, is found at Oropus and elsewhere, and is laid down at Laurium for 19 drachmas per ton for the French company's furnaces; but Laurium had to import from England last year additional fuel to the value of nearly $500,000, viz, 18,351 tons of coal, 33,195 tons of coke, and 3,989 tons of patent fuel. While the facilities for ore dressing are exceptionally good, both from the lay of the land and the vicinity of the sea, smelting must remain a comparatively expensive process until cheap fuel is obtained or a substitute found.

On the other hand, there are distinct advantages as regards transportation and labor. With railway connection inland and the best of harbors immediately at hand, transportation facilities are abundant. The Greeks are historically a sea-faring people, and they now have a long lead in the carrying trade of their own country and are second only to the English in that of the Levant at large.

Labor, too, is cheap and docile. At first it was difficult to obtain native labor sufficiently skilled, and nearly all the work was done by Italians. Now, however, the Hellenic company boasts that it employs Greeks almost exclusively, even in its more responsible positions. These Greek miners, on 50 to 60 cents a day, not only live, but lay up money; and the social arrangements of the companies seem to be humane and wise, guarantying the care and comfort of the men in case of sickness or other disability incurred in their service. The modern labor question has not yet struck Laurium, the last strike on record being probably that of the twenty thousand slaves who flocked to Deceleia during the Spartan occupation in the closing period of the Peloponnesian war. The free Greek now probably costs less, all things considered, than the slave who delved in these mines in the age of Pericles, besides being a less uncertain quantity.

IRVING J. MANATT,
Consul.

UNITED STATES CONSULATE,
Athens, November 20, 1890.

CONSIGNMENT SHIPMENTS TO CANADA.

TRANSMITTED BY CONSUL-GENERAL LAY, OF OTTAWA.

GOVERNMENT HOUSE AT OTTAWA,
Thursday, December 11, 1890.

Present: His Excellency the governor-general in council.

His Excellency, in virtue of the powers vested in him by section 252 of "the customs act," chapter 32 of the revised statutes, and by and with the advice of the Queen's privy council for Canada, is pleased to order that the form of declaration to be made by the foreign owner of any goods shipped to Canada on consignment, being form 6 prescribed by the order in council of the 25th day of July, 1888, chapter 14 of the consolidated orders in council of Canada, prescribing forms of oath required under the above-cited act, as well as the like form of declaration prescribed by the order in council of the 19th of May, 1881, shall be, and the same are hereby, canceled and the following substituted in lieu thereof.

FORM 6.

Declaration to be made by the foreign owner of any goods shipped to Canada on consignment before the collector or the mayor or other chief municipal officer at the place in the United Kingdom, or other place in Her Majesty's possessions abroad, from whence the goods are shipped, or before a notary public, and at any other place before a British consul; or, if there is no British consul, then before a foreign consul at such place. (*Vide* section 152 customs act, chapter 32 revised statutes.)

I, ———, of ———, do solemnly and truly declare that I am (a member of the firm of ———, giving the name when not the individual owner) the owner of the goods shipped on consignment to (name of consignee), at ———, in Canada, and described in the annexed invoice; that the said invoice contains a full and true statement of the fair market value, when sold for home consumption, of the said goods at the time and place of the exportation thereof direct to Canada; that such fair market value includes any bounties, drawbacks, royalties, rents, or charges that may have been or are expected to be allowed or paid on the said goods, or is payable on patent-rights or because of the lease of such goods, or for the right of using the same, and that no different invoice on account thereof has been or will be furnished to any one by me or on my behalf.

Signed and declared before me at ———, this ——— day of ———, 189—.

JOHN J. McGEE,
Clerk Privy Council.

THE ARGENTINE REPUBLIC IN 1890.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

The history of the Argentine Republic shows few sadder pages than that which marks the events of the year just closing. Not only has the country been struggling in the throes of commercial depression and financial ruin, but it has endured the national scandal of political revolution and civil bloodshed. To calm the excitement of the people, the late President undertook at first to call the situation "a crisis of progress;" but, in view of the distress and demoralization which have characterized both foreign and domestic trade, of the colossal fortunes which have crumbled under the consuming curse of fatal financial mismanagement, and of the sad straits to which the Government itself has been reduced to meet the service of the public debt, the year has certainly been one of humiliating reverses. In my last report I referred to the mad spirit of speculation which was rampant in the land; to the exaggerated prices of real estate, which went the higher as higher went the premium on gold; to national banks with hundreds of millions of circulation beyond their ability to redeem; to the thousands of mushroom joint-stock companies with millions of capital on paper, which, in the midst of the general inflation, blossomed out all over the country; to the increased importations of all manner of luxuries and unproductive articles to meet the tastes of the suddenly grown rich; to the wild overtrading on long credits in every branch of trade and commerce—and now the collapse has come, and come with a vengeance. Lands unsalable at any price, national banks gutted and left without a cent in their strong boxes, stock companies with fraudulent entries in their records and without any thing to show for the pretensions they set up, merchants unable to meet their liabilities in bank, notes protested and extensions granted, the general business at a stand-still, the banks hesitating to discount, and nobody able to say whom it is safe to trust—such is the picture which the country presents to-day.

THE REVOLUTION IN BUENOS AYRES.

But, beyond this, political confidence gradually went down to the lowest possible ebb, and the Government of President Celman, which had done, or permitted to be done, all these enormities, at last became unbearable. Open condemnation of the authorities and secret plottings of revolution—when every one supposed that the days of revolution were over forever in this country—were everywhere rife. Both army and navy were demoralized, and the citizens of the capital woke up on the morning of the 25th of July to find that the national arsenal and armory were in the hands of the insurgents. The leaders issued proclamations calling on their countrymen to put down the Celman Government, at the same time setting up a provisional one in its place. On the other hand, the President declared the country in a state of siege, and his adherents—many, indeed, who condemned him, but were opposed to revolutionary measures—resolutely stood by the Government troops. A general battle was waged through the streets of Buenos Ayres, and the fleet from the inner roads bombarded the city during the next three days. Many hundreds were killed, and many more were wounded; but the national authorities were too strong in resources for the illy directed mob, and finally a capitulation, with amnesty to all, was agreed upon. But the popular movement, although defeated on the field, was successful in the result accomplished, for public opinion was so emphatically against President Celman that, deserted by his legal advisers and not being able to find reputable men to take the vacated places, he finally, on the 6th of August, sent a letter to the National Senate stating that "he sacrificed himself to the interests of the Republic." He resigned the executive office, and on the 7th Vice-President Peligrini was sworn into office for the unexpired term amidst the general rejoicings of the people. The new incumbent is an able and well-meaning man, and he has formed a compromise cabinet from the best elements of both parties. He commands, generally, the popular approval. That confidence is expressed by a slight decline in the gold premium since he came into power and in the hope that the bottom of the financial abyss had been touched.

THE GENERAL COLLAPSE OF BUSINESS.

In the midst, however, of the business and commercial gloom which everywhere exists, it seems almost idle, at the present time, to undertake to point out in a consular report any glimpse of light, much less of sunshine, in the general outlook of the country or in the condition of industries which a year ago were so promising. I can only say that "it is all here still," but the boom "which then sent things spinning through the country," which was opening up new agricultural centers on all sides, which was wiring in leagues upon leagues of outside pampa lands, which put an increased value on sheep and cattle and their product all through the interior, which was building new railways in every direction, which was spending money in a hundred different enterprises, and which made people here and abroad feel that the Argentine Republic was on the high road to a prosperous future—the "boom" has disappeared. Every business, every industry, every new enterprise feels and suffers from the tremendous reaction which has taken place. Everybody is confounded and stands aghast, looking at the stick which but yesterday, as it were, was a flaming rocket.

THE END OF LAND SPECULATIONS.

The effects of the crisis have been especially felt in the collapse of the innumerable land and colonization schemes for the opening up of the interior and the development of centers of population. With the "boom" in real estate everybody was "in the swim" to make money out of the public lands, and concessions of the most stupendous proportions and quite unlimited capital were granted by the Government and put afloat by the holders. There is hardly one of the speculators who has not been caught by the ebb, and, in most cases, hopelessly stranded. The minister of the interior, who is trying to save to the Government what he can out of such wrecks, has just issued a decree annulling the whole brood in a batch. His action meets the general approval of the people. The Buenos Ayres Standard says:

> All will applaud to the echo the Government decrees that seal the fate of a score of railway concessions and land colonization schemes, bubbles floating in the air for the last two or three years and wafted to-day into the waste-paper basket of the home minister. It seems only yesterday that the phenomenal rush for public lands took place; when official favoritism granted hundreds upon hundreds of leagues to speculators and others, who, in those moments of folly, thought that they had secured big prizes in the lottery of fortune; when the happy *concessionnaires* pledged on paper their good names and in the bank a fraction—a very small one in all cases—of their money to pay for their land grants in bills running over many years and to colonize at the rate of a fixed number of homesteads per square league. Some parties were mad enough to take up territories of several hundred leagues and to engage themselves in a promise to start on the lands thousands of families from certain quarters of the civilized globe. With the exception of a few, these land concessions at the time looked more like munificent gifts to favorites than sound business on the part of the Government. Thousands of applications were filed, and the parlor of the land office in the home ministry was quite as crowded as the lobbies of Congress once were with *concessionnaires* for public works.
>
> Times have changed. To-day we see that the majority of the land *concessionnaires* have failed to sell their concessions or to carry out the stipulations of their contract. Hundreds who had merely bought the lands at auction, in business fashion, without any of the trammels and trials attending free grants on condition of colonization and improvement, find, to their astonishment, that the crisis has leveled every thing, price of land included, and that they can not continue paying the bills running on their purchases. The action of the Government to-day does not affect the purchasers of fiscal lands of the latter category, for the ordinary procedure takes place in case of non-payment—the unfortunate purchaser forfeits the land and his previous payments thereon. Where the action of the Government is sorely felt to-day is in all those cases where lands were given to certain parties for the familiar song, the melody of which still rings in our ears, with the promised influx of immigrants, the starting of thousands of families, the construction of dwellings, of canals, of railways, of sugar factories, and what not. It is in these quarters, where the stipulations accompanying the land grants have not been carried out to the letter, that the Government now steps in to annul all such concessions. And, we beg to repeat, all will applaud to the echo the reform thus radically begun by the home minister. Hundreds of leagues of splendid land will now return to fiscal ownership, while hundreds of *concessionnaires* will gnash their teeth that they did not avail of the golden opportunities offered during the booming days of 1888 and 1889 to sell their cheaply gotten claims on some of the fairest portions of the great territorial patrimony of the Argentine Republic.

IMMIGRATION.

The stream of immigration which during the last few years has been seeking the shores of the river Plate by hundreds of thousands has quite subsided. In 1887 the number of arrivals was 120,842; in 1883, 155,632; and in 1889 it reached to 273,000; but that was the culmination of the wave. It met here a most lamentable state of affairs—business houses closing, workshops idle, river commerce almost suspended, all building operations stopped, a panic in every department of trade, wages of workmen reduced, operatives thrown out of employment, few opportunities offering for work in the interior. It was pitiable to see the hungry immigrants thronging the streets and wharves in search of charity. That was at the close of 1889. Since then the situation, so far as working-men are concerned, has continued to grow worse; and during the last six months there has been a regular stampede among the newly arrived to get away from here. By every steamer outward bound hundreds and thousands have been retiring from the river Plate. Free passages were for a time offered by the Brazilian Government to those desiring to try their fortunes in that country, and this sent off many other thousands who had no means of their own to get away. The result has been that during the year just closed the number of departures from Buenos Ayres has almost kept pace with the number of arrivals. And, as the unpromising condition of affairs in this country becomes more fully understood throughout Europe, immigration must continue to grow less and less. In view of the situation, the Government has discontinued all its agencies and closed up its emigration offices abroad. Of course, this state of affairs must work a depressing effect upon all Argentine industries. The balance-sheet of immigration and emigration of the first nine months of 1890 is as follows:

	Number.
Immigration	115,168
Emigration	71,864
Balance remaining	33,304

AGRICULTURE.

But the industry which will feel it the most is probably that of agriculture, in this, that it will to some extent put a stop to the opening of new farms, if, indeed, it may not reduce the breadth of land which has already been planted in crops. Indeed, while the present prospects of the coming harvest are fair, there is already a fear that there will not be hands enough to gather it, thus imperiling a portion of the yield if bad weather should set in. This apprehension, however, may be exaggerated.

Of the crop of last season, while the yield of wheat was unusually small and the corn crop was unusually large, the total value of the crop was about the same as that of 1888. I give below the returns of the exports of the most important articles for 1889 and nine months of 1890:

Articles.	1889.	1890.
	Tons.	*Tons.*
Birdseed	1,110	148
Linseed	28,195	30,541
Corn	432,590	586,670
Baled hay	20,434	14,197
Wheat	22,806	319,256
Barley	321	1,117
Flour	3,360	10,746

Thus the shipments for only nine months of the present year are already far in excess of the total quantities exported in 1889.

RAILWAYS.

The operations in railway construction during the last year, owing to the difficulty of raising the necessary capital, have been very restricted. At the present time, I think, work is suspended on nearly all those which are under construction, while those which have been merely surveyed will probably not find persons willing to take the contracts of construction for years to come. As for all those on paper for which concessions have been granted to be floated in Europe—and their name is legion—it will be safe to say that they will remain *in statu quo* until Argentine enterprises once more have a good name abroad. Now that there is a halt, it is a good time to sum up what thus far has been done year by year in the way of railway building. I subjoin a table from an official source, which shows the progress from 1857, when the first mile was constructed, down to 1889, together with the amount expended:

Year.	Distance constructed.	Cost (in gold).
	Kilometers.	
1857	10	$285,408
1858	18	450,300
1859	23	578,480
1860	39	785,030
1861	39	785,030
1862	47	1,117,536
1863	61	1,340,134
1864	94	1,747,700
1865	213	5,379,898
1866	514	12,170,410
1867	566	13,592,831
1868	572	13,863,964
1869	604	16,026,951
1870	732	18,835,703
1871	852	20,963,582
1872	965	23.950,480
1873	1,104	30,651,407
1874	1,249	[illegible]
1875	1,384	[illegible]
1876	1,665	[illegible]
1877	2,262	54,870,925
1878	2,262	54,870,925
1879	2,262	54,870,925
1880	2,313	58,341,981
1881	2,402	[illegible]
1882	2,666	61,962,005
1883	3,124	[illegible]
1884	3,728	80,036,932
1885	4,626	113,705,351
1886	5,960	[illegible]
1887	[illegible]	[illegible]
1888	[illegible]	[illegible]
1889	11,500	[illegible]

There are about 5,000 kilometers in addition to the above which are partly constructed and only require small additional work to complete them, but which have been stopped by the "hard times," thus making 16,500 kilometers in all.

Congress has emphatically refused to grant any new charters with Government guaranty, and has passed a law suspending all guaranties to railways which have not complied with the terms of their charters.

PUBLIC WORKS.

The Government has also, so far as it is possible, stopped all work upon public buildings, docks, wharfs, canals, etc., owing to the want of money for their further prosecution. The only public work of any importance which continues to be pushed is the port works of Buenos Ayres. The reason of this is that provision, by the sale of national bonds, was made for this enterprise before the country was caught in the crisis. During the last year the excavations have had a large force employed upon them, and the masonry has kept pace with the earth-works. The basin and docks No. 1 and No. 2 are complete and open for business. Dock No. 3 will be ready in a few more months, while the work upon the others is progressing satisfactorily. It will be a magnificent monument to the enterprise of the Government when the whole is complete.

MINES AND MINING.

There is nothing new to be said on this subject. Almost the same uncertainty continues to exist in reference to Argentine coal that has accompanied the vexed question from the beginning. While at different points in the interior we are continually hearing the cry of "eureka," it is not yet absolutely certain that it has been found. I saw some specimens recently brought from Nauqueen, but it seemed more like shale than coal. I could not induce it to ignite; yet, by going deeper, they may find the "black diamond" there. In Mendoza the reports of coal discoveries are pretty well substantiated, and parties there have claimed the $25,000 reward which years ago was offered by the Government. No award, however, has yet been made, or at least paid. On this subject I find a communication in the Buenos Ayres Standard written by Dr. H. D. Horkold, who is the inspector-general of mines, and who was chairman of the committee appointed to make the award. He says:

> The National Government passed a law in 1870 offering a premium of $25,000 for the discovery of a coal-field having certain conditions indicated in the law, and there have been various applications from time to time for the award. The last was made in 1886, and in 1887 the Government issued a commission to consider the applications then pending. This commission consisted of five persons, *i. e.*, Dr. Don J. J. Kyle, director of assays in the Government mint and professor of chemistry in the university; Dr. Carlos Berg, professor of natural history in the university; Dr. Miguel Puigarri, professor of chemistry; Dr. Gil, senator of the nation for San Juan; and the writer, who was elected president of the commission. Various complicated legal, scientific, and mining engineering questions were involved and had to be considered, finally resulting in drawing up and presenting to the Government a very extensive report, in which all the various questions were decided.
>
> Curiously enough, however, out of several applicants, only one possessed a legal claim to the premium, and one of the difficulties which presented itself was that the law of 1870 did not concede to the commission the right of making an inspection of the coal-field for the dis-

covery of which the premium was asked. They were under the necessity to form a judgment from the mere evidence produced. In this particular case Dr. Brakebush, professor in the University of Cordoba, seemed to have examined the coal-field in question, and he drew up a long report for the interested parties, the contents of which formed some of the evidence before the commission.

The peculiarities of the law of 1870 and various other circumstances induced the commission to recommend the Government not to pay the amount of the premium claimed for the discovery until the claimants had made borings in order to prove the coal-field, and this recommendation was adopted. The parties interested purchased a diamond boring machine in North America, brought it here, and commenced to carry on boring operations, which are still in progress.

If the party should succeed, as Dr. Brakebush stated in his report, then the Government will have no alternative but to pay the premium; otherwise it will fall through.

Meanwhile, however, no Argentine coal has yet been produced to meet the enormous demand of the country for such fuel. All that is used continues to come from abroad. The returns show that for the year 1889 the receipts of foreign coal amounted to 658,054 tons, against 333,798 tons in 1888. All this coal came from Great Britain, except 49,764 tons, which is credited to the United States. As all the railways and all the industrial establishments of the country are thus dependent upon imported coal, it requires no argument to prove what a mine of wealth to the nation and finders would be the discovery of coal of merchantable quality and sufficient quantity.

Mining for the precious metals seems to make no progress. The "bonanza" has not yet been proclaimed, though at intervals the old story of rich leads is still repeated. In 1888 the total output was valued at $1,526,057; in 1889, at $1,629,160. The shipment of minerals for the latter year and nine months of 1890 was as follows:

Articles.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
	Kilograms.		*Kilograms.*	
Auriferous sand	202,090	$34,355	36,300	$6,171
Bismuth	78,710	275,485	6,800	[illegible]
Borax	121,160	7,959	148,205	[illegible]
Copper in bars	56,390	22,556	[illegible]	[illegible]
Tin	353,468	176,733	107,840	[illegible]
Silver metal	25,840	258,400	....	....
Copper mineral	167,545	45,237	87,464	[illegible]
Silver mineral	177,591	88,995	264,142	[illegible]
Lead mineral	110,007	8,800	93,155	[illegible]
Gold	7	4,277	....	....
Lead, pure	31,860	2,549	....	....
Silver, pure	19,022	703,814	5,952	[illegible]
Total	....	1,629,106	....	[illegible]

Considering the millions of dollars invested in Argentine mines, the showing could hardly be more unsatisfactory.

PETROLEUM.

In regard to petroleum, of which we are assured there are such immense subterranean rivers in the provinces of Mendoza, Salta, and Jujuy, there seems to be a doubt as to whether it is the "simon pure" article or not. A correspondent of the Standard of this city, who claims a thorough knowledge of the subject from many years' practical experience, makes the sweeping statement that "there is not 1 ounce of true petroleum in the country. All true geologists will confirm the statement." And he goes on to say:

> Petroleum, (so called) is more or less abundant along the entire Pacific coast, from Alaska to Terra del Fuego; but along this entire distance there is not 1 ounce of true petroleum, a distance of some 8,000 miles.
>
> The base of true petroleum is paraffine; the other is asphalt. The geological formations in which the two are found are wholly different. Kerosene from the one is easily distilled; the other requires three or four distillations and treatments, and then this product is greatly inferior to the other.
>
> The asphalt petroleum is very rich in carbon and can not be utilized even for the manufacture of gas; its smoke soon fills the pipes. The Caspian oil is successfully utilized for steam purposes by first vaporizing it and combining it with superheated steam; but, after all known processes of refining, it is inferior to the Pennsylvania product, and must continue to be.
>
> The sooner your readers get rid of this idea, that in any part of this Republic there is any true petroleum, the better for their time, their purses, and their reputation as business men.

All I can say is that those who have organized companies to exploit the material insist on it that the man who makes the above sweeping statements does not know what he is talking about. Meanwhile, however, no native kerosene has yet been seen upon the market.

The salt deposits of the Rio Negro are a great success, and those who are preparing the article for market find a ready sale for all they can supply.

ARGENTINE HARD WOODS.

There has been no cessation in the shipment of Argentine hard woods to European markets, where they are used for veneering and cabinet work; but the industry still lacks proper development. The exports of 1888 amounted to $781,793; of 1889, to $793,257; and for nine months of 1890, to $911,542. The greater portion of these shipments were the quebracho logs, which take a polish as rich as rose-wood.

THE CATTLE INDUSTRY.

I referred in my last annual report to the encouraging outlook of the cattle, or "saladero," industry, owing to the increased demand for jerked beef in Brazil and other places. The exports confirm this view. The total amount shipped in 1888 was 26,449 tons, while for 1889 it was 41,767 tons. For the first nine months of 1890 the export was 31,464 tons.

The business of exporting frozen carcasses is taking firm foot-hold in this country, and, as new companies have recently been organized, it promises increased development.

The following table of shipments shows the progress of the industry since its commencement in 1885:

Year.	Quantity.	Value.
	Tons.	
1885	2,860	$75,323
1886	7,350	360,508
1887	12,038	963,112
1888	18,027	1,498,182
1889	17,489	1,399,276
1890 (9 months)	15,590	1,246,272

In order, however, to give the companies a better margin of profits, and thus the greater encouragement, the Government now gives a 5 per cent. guaranty on the amount of the shipments.

The export to Europe of cattle on the hoof has been persistently tried during the last year or two; but, while the balance-sheets, as published, would indicate fair profits, the business makes no progress.

The driving of cattle over the Cordilleras to Chili and other adjoining countries is, however, assuming increased proportions. In 1888 the number exported thus was 94,726; in 1889 it was 139,637, and for the nine months of 1890 it has been 121,889. As the great western Pampas are now becoming more generally settled and cattle *estancias* have been opened in various places, even to the foot of the Andes, the industry will continue to increase—and the business is a paying one.

ARGENTINE TRANSIT TRADE.

The transit trade of the Argentine Republic not only shows but little change in its proportions during the last year, but the account has been so badly kept that it is difficult to make it intelligent. The following are the published figures:

Countries.	Ingress.	Egress.	Total.
Bolivia	$3,327,645	$106,487	$3,434,132
Brazil	50,632	129,613	180,245
Paraguay	52,127	355,253	407,380
Uruguay	107,247	289,031	396,278
Various countries	1,119,541	3,856,628	4,976,169
Total	4,657,192	4,737,012	9,394,204

I assume that "various" in the above table means that it is not known to what country the goods were going or from what country they came, since the four countries named are the only ones adjoining the Argentine Republic or with which there could have been a transit trade.

RIVER COMMERCE.

There does not appear to be much change of figures in the river commerce of the year 1889, though, of course, at that date the full effects of the crisis were not felt. The total movement was $89,978,537, against $94,968,486 for 1888.

The total tonnage engaged in the river commerce during 1889 was: Of sailing vessels, 2,582,606 tons, against 1,860,340 tons for the previous year; of steamers, 644,532 tons, against 732,178 tons for the previous year.

River transportation.—The quantity and value of the most important articles transported by river-steamers are seen in the following table:

Articles.	Quantity.	Value.
Bran ... tons	6,363	$105,446
High wines ... liters	2,288,722	272,647
Sugar ... tons	5,588	726,536
Lime ... do	1,523	1,090,521
Charcoal ... do	4,098	4,098,047
Sleepers ... number	118,715	33,614
Macaroni ... tons	1,079	215,963
Biscuit ... do	1,273	198,521
Flour ... do	51,118	3,578,309
Wood ... bundles	148,368,135	741,841
Hard wood ... square meters	4,999,563	1,999,825
Tobacco ... tons	201	21,703
Wines ... liters	347,400	63,590
Corn:		
Shelled ... tons	103,543	2,070,862
Unshelled ... do	526	5,261
Pea-nuts ... do	3,162	126,489
Posts ... number	631,141	189,441
Potatoes ... tons	15,147	607,917
Raisins ... do	180	38,703
Baled hay ... do	2,544	30,538
Pickets ... number	1,055,993	527,996
Salt ... tons	180	112,082
Linseed ... do	12,659	632,951
Sole-leather ... number	72,564	588,512
Wheat ... tons	73,006	2,902,298
Yerba ... do	901	94,607

FOREIGN NAVIGATION.

The carrying trade of this country with other nations for the year 1889 continues to show an increase in tonnage. I compile the following tables from the returns of the national statistical office:

Table showing arrivals and departures.

Class of vessels.	Arrivals.		Departures.		Total.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Sailing vessels	8,222	1,675,345	5,479	1,264,755	13,701	2,941,100
Steamers	6,223	5,036,341	5,990	4,578,217	12,222	9,614,558
Total in 1889	14,445	6,711,686	11,469	5,842,972	25,823	12,555,958
Total in 1888	13,493	4,885,777	10,810	4,319,439	24,303	9,205,216
Increase	952	1,825,809	659	1,523,533	1,520	3,350,742

Table showing arrivals and departures at each port.

Ports.	Arrivals.				Departures.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Bahia Blanca	31	18,839	....	....	27	14,108	....	....
Bella Vista	....	....	225	107,427	....	....	224	107,615
Buenos Ayres	4,430	1,086,459	1,937	2,098,431	1,885	720,569	1,708	1,653,318
Campaña	86	21,189	63	52,512	67	20,722	76	76,839
Colon	89	3,923	366	311,832	71	28,950	390	309,246
Concepcion	92	3,135	138	180,872	85	4,460	155	137,392
Concordia	246	13,453	458	335,190	240	16,882	476	334,694
Corrientes	70	14,487	255	112,442	92	13,195	228	102,580
Diamante	....	....	43	23,664	....	....	36	21,765
Empedrado	....	....	94	61,501	....	....	123	74,348
Esquina	....	....	183	96,796	....	....	166	90,887
Formosa	....	....	206	101,373	....	....	210	103,879
Goya	....	....	228	106,536	....	....	237	104,021
Gualeguay	30	4,457	....	....	36	7,600	....	....
Gualeguachú	104	11,036	380	176,038	88	14,043	404	223,864
La Paz	2	651	227	111,110	29	4,244	239	112,876
La Plata	2,030	191,045	122	16,561	1,863	166,236	115	16,898
Monte Caseros	22	440	28	2,090	33	488	10	664
Paraná	29	5,639	229	108,399	20	2,430	237	115,958
Paso de los Libres	67	627	....	....	63	585	....	....
Posadas	72	600	....	....	85	559	....	....
Rosario	643	236,490	737	719,833	527	164,134	566	499,408
San Nicolas	59	24,985	196	303,707	123	29,775	182	275,095
Santa Fé	38	8,282	49	30,046	24	6,108	5	1,126
Villa Constitucion	35	16,903	....	....	39	26,150	....	....
Zárate	19	5,788	25	32,094	30	10,595	42	53,016
All other ports	28	6,317	34	3,887	46	12,922	161	162,728
Total	8,222	1,675,345	6,223	5,036,341	5,479	1,264,755	5,990	4,578,217

Table showing arrivals from, and departures to, each country.

To and from—	Arrivals.				Departures.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Germany	47	22,692	210	336,763	5	2,675	187	292,240
Antilles	4	2,989	....	....	470	269,738	6	8,042
Austria	3	592	....	....	....	....	....	....
Belgium	39	22,421	156	230,290	13	4,191	110	168,517
Brazil	147	21,390	116	27,154	296	75,217	127	188,874
Canada	39	33,168	....	....	24	17,898	....	....
Spain	79	40,826	45	56,741	41	20,514	27	43,778
United States	592	378,229	30	46,709	483	293,335	28	44,577
France	102	52,171	235	502,661	20	8,520	225	494,361
Italy	39	16,128	203	342,641	16	6,093	123	225,911
Norway	2	1,001	....	....	1	412	....	....
Paraguay	238	16,080	1,536	872,729	245	17,085	1,703	869,609
Great Britain	1,096	611,877	564	769,114	440	211,972	256	401,541
Sweden	3	1,268	....	....	....	....	....	....
Uruguay	5,749	443,129	3,121	1,135,267	3,194	203,633	3,081	1,818,450

Table showing arrivals from, and departures to, each country—Continued.

To and from—	Arrivals.				Departures.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Africa					5	1,808	1	1,278
Asia					1	760		
Australia					2	1,508		
Chili			1	1,434	32	38,081	3	4,817
Denmark					2	846		
Colombia					1	1,298		
Mexico					5	2,440	1	1,278
Nicaragua					1	653		
Holland					1	398		
Peru					9	7,325		
Portugal					8	3,186	6	7,937
All other countries	43	11,384	6	4,738	141	75,169	6	7,007
Total	8,222	1,675,345	6,223	5,036,341	5,479	1,264,755	5,990	4,578,217

Table showing arrivals and departures according to flag.

Flag.	Arrivals.				Departures.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
German	138	64,110	218	348,053	150	64,854	197	308,838
Austrian	94	50,263			82	39,857		
Brazilian	27	1,323	265	118,212	22	1,698	234	85,663
Danish	27	9,754			22	7,125		
Spanish	71	21,265	43	63,244	56	15,160	28	44,487
French	83	20,616	242	525,063	67	15,627	216	486,515
Dutch	20	8,836			14	4,933		
British	738	412,125	2,244	2,189,658	509	313,539	2,321	2,003,717
Italian	400	192,015	175	288,662	328	165,194	134	236,993
Argentine	4,246	304,765	2,674	1,369,602	2,509	144,330	2,557	1,288,700
American	207	126,800			173	102,395		
Norwegian	567	306,256			560	289,939		
Paraguayan	206	16,561	8	1,231	127	7,358	18	10,458
Russian	16	10,994			12	6,330		
Swedish	98	45,878	2	555	80	34,340		
Uruguayan	1,266	80,373	317	78,317	758	50,856	259	72,307
Belgian			18	26,543			11	16,971
Not named	18	3,411	17	27,201	10	1,220	15	23,554
Total	8,222	1,675,345	6,223	5,036,341	5,479	1,264,755	5,990	4.578,217

I give the foregoing tables as I find them officially published. I can not undertake to explain the very large differences between the arrivals and departures of vessels. Indeed, it would be much more satisfactory if the Argentine statistical office simply gave the tables of arrivals, with their tonnage, as is done in the United States, and not count the same vessel and the same tonnage twice—when it enters and when it departs.

These returns show that during the year 1889 not a single steamer bearing the flag of the United States arrived from abroad. According to the tables, there were 30 arrivals of steamers from the United States; but they were what are called "tramps," bearing the British flag. It appears that there were 592 arrivals of sailing vessels from the United States during 1889, of which 207 carried the American flag.

During the first ten months of the present year, owing to the crisis and the general derangement of trade, there has been a remarkable decrease in the foreign shipping at all Argentine ports. Only 23 American vessels have, up to the present month of 1890, entered at this consulate, whereas up to the same time last year 116 had entered.

FOREIGN COMMERCE.

The foreign commerce of the Argentine Republic for 1889 looms up in its proportions beyond any thing in its previous statistics. The imports amounted to $164,569,884, and the exports to $122,815,057; total, $287,384,941. The excess of imports over exports is $41,751,827. For the sake of comparison, I give the returns of the Argentine foreign trade for the last ten years:

Year.	Imports.	Exports.	Total.
1880	$45,535,880	$58,380,787	$103,916,667
1881	55,755,927	57,938,272	113,644,199
1882	61,246,045	60,388,939	121,634,984
1883	80,435,828	60,207,976	140,643,804
1884	94,056,144	68,029,836	162,085,980
1885	92,221,969	83,879,100	176,101,059
1886	95,408,745	69,834,841	165,243,586
1887	117,352,125	84,921,820	201,773,945
1888	128,412,110	100,111,903	228,524,013
1889	164,569,884	122,815,057	287,384,941

As I have heretofore stated, while the imports of the country are given in gold dollars, the exports are stated in paper, and which, if reduced to a gold basis at the mean rate of exchange, would not much exceed $75,000,000. Thus it will be observed that, while for that year there was no corresponding increase in exports, the imports exceeded those of any year in the history of the country, the balance of trade against the Argentine Republic really amounting to upwards of $80,000,000 (gold).

Imports and exports by custom-houses.—The following table, compiled from the returns published by the national statistical office, shows the imports and exports of each custom-house in the country:

Custom-house.	Imports.	Exports.	Total.
Ajó	$16,431	$366,864	$383,295
Alvear	8,444	2,475	10,919
Baradero	55,944	353,480	409,424
Bahia Blanca	675,854	3,506,123	4,181,977
Bella Vista	59,313	47,747	107,060
Buenos Ayres	120,369,894	78,221,632	198,591,526
Campaña	1,856,115	917,452	2,773,567
Colon	65,291	1,552,408	1,617,699
Concepcion	127,266	374,325	501,591
Concordia	1,511,406	3,604,512	5,115,918
Corrientes	545,348	31,851	577,199
Diamante	5,270	34,363	39,633
Empedrado	29,914	101,479	131,393
Esquina	166,439	14,998	181,437
Formosa	7,072	8,082	15,154
Goya	79,134	8,157	87,291
Gualeguay	120,393	930,989	1,051,382
Gualeguachú	213,178	1,547,366	1,760,544
Helvecia	2,424	558,552	560,976
Jujuy	64,681	234,821	299,502
La Cruz	882	....	882
La Paz	140,570	130,179	270,749
La Plata	2,756,014	670,605	3,426,619
Mendoza	56,362	1,510,419	1,566,781
Monte Caseros	98,268	278,081	376,349
Oran	574	7,142	7,716
Paraná	1,229,659	212,151	1,441,810
Paso de los Libres	19,369	45,244	64,613
Patagones	....	267,089	267,089
Rosario	29,503,917	13,130,593	42,634,510
Salta	47,763	113,140	160,903
Santa Fé	1,823,990	602,980	2,426,970
San Juan	44,640	649,700	694,340
San Lorenzo	....	415,270	415,270
San Nicolas	1,623,850	7,828,288	9,452,138
San Pedro	35,199	2,253,994	2,289,193
Santo Tomé	10,692	69,110	79,802
Trinchera de San José	58,020	....	58,020
Villa Constitucion	794,087	616,525	1,410,612
Victoria	30,658	9,835	40,493
Zárate	315,559	1,587,036	1,902,595
Total	164,569,884	122,815,057	287,384,941

From this table it will be seen that the entire trade of the country is becoming more and more centralized in Buenos Ayres and Rosario, owing, of course, to the better facilities which those two ports offer for the handling of cargoes. Out of the entire imports and exports of the country, all but about $46,000,000 was dispatched at Buenos Ayres or Rosario.

Argentine trade according to nationality.—Also, from the returns published by the national statistical office, I have compiled the following table, giving the countries among which the Argentine trade of 1889 was distributed:

From and to—	Imports.	Exports.	Total.
Germany	$15,477,754	$17,120,472	$32,598,226
Antilles	910	1,290,472	1,291,382
Austria	42,035	....	42,035
Belgium	13,958,247	16,326,423	30,284,670
Bolivia	63,313	328,203	391,516
Brazil	2,607,017	7,522,835	10,129,852
Chili	19,509	2,504,727	2,524,236
Spain	4,565,470	3,332,115	7,897,585
United States	16,801,750	7,726,691	24,528,441
France	30,237,407	38,264,414	68,501,821
Italy	10,188,189	3,930,134	14,118,323
Holland	831,372	116,479	947,851
Paraguay	1,377,543	855,292	2,232,835
Portugal	72,567	189,581	262,148
Great Britain	56,820,169	14,931,394	71,751,563
Norway and Sweden	242,395	....	242,395
Africa	....	27,537	27,537
Uruguay	7,206,315	5,393,960	12,600,275
Countries not named	4,057,922	2,954,328	7,012,250
Total	164,569,884	122,815,057	287,384,941

It will be observed from the foregoing table that in the amount of imports Great Britain continues overwhelmingly to occupy the first place, her share in 1889 amounting to about 35 per cent. of the whole, while France continues to stand next, her share being a little over 18 per cent. Meanwhile, however, the United States, which heretofore stood after both Germany and Belgium, has now come up to the third place in the category, our share for 1889 amounting to 10 per cent. of the total imports.

In the amount of exports France still occupies the first place, the shipments of the Argentine Republic to that country for 1889 amounting to 36 per cent. of the whole, while Germany stands for 14 per cent., Belgium for 13½ per cent., Great Britain for 12 per cent., and the United States, as heretofore, standing for a little over 6 per cent.

Of the total foreign trade of the Argentine Republic for 1889, Great Britain continues to hold the first place, her trade amounting to 25 per cent., while France, just on her heels, now stands for 24 per cent., Germany stands for 11½ per cent., Belgium for 10½ per cent., and the United States for 9 per cent.

In view of the present distracted condition of trade and the general want of interest which just now such statistics possess, I do not deem it necessary to go into minute comparisons showing what countries have increased and what ones have reduced their trade since the previous year.

DETAILS OF THE IMPORT AND EXPORT TRADE.

In the following tables, which I have translated and compiled from the returns of the national statistical office, will be found the amount and custom-house valuation of all articles imported into, or exported from, the Argentine Republic during the year 1889:

Table showing imports into the Argentine Republic in 1889.

Articles.	Quantity.	Official value.
Live stock:		
Horses and asses ... number	547	$73,138
Hogs ... do.	87	1,840
Sheep ... do.	19,479	43,107
Mules ... do.	4	100
Cattle ... do.	628	35,748
Total	...	153,933
Comestibles:		
Olive oil ... kilograms	6,631,788	2,121,981
Olives ... do.	666,338	104,223
Starch ... do.	812,258	143,909
Rice ... do.	15,924,311	1,433,191
Saffron ... do.	2,926	40,964
Sugar—		
Refined ... do.	33,030,577	6,275,810
All other classes ... do.	1,435,329	186,591
Cod-fish ... do.	1,251,359	204,456
Cocoa ... do.	231,323	57,831
Coffee ... do.	2,746,524	803,183
Cinnamon ... do.	1,602	460
Meat ... do.	199,936	109,943
Barley ... do.	681,402	22,094
Chocolate ... do.	210,776	210,776
Coca ... do.	79,186	55,660
Confectionery and dulces ... do.	249,161	174,446
Spices and condiments ... do.	1,722,785	501,815
Farina ... do.	1,455,668	72,780
Fecula ... do.	104,371	12,859
Macaroni ... do.	318,360	63,734
Fresh fruits	...	49,872
Dry and preserved fruits ... kilograms	2,043,997	335,570
Flour—		
Wheat ... do.	60,942	5,061
Of all other grain ... do.	89,215	14,342
Hams ... do.	246,567	133,148
Vegetables, dried and canned ... do.	2,892,794	318,140
Butter ... do.	17,501	9,100
Lard ... do.	358,335	111,161
Molasses ... do.	12,385	1,903
Crackers and biscuits ... do.	73,333	22,042
Raisins ... do.	94,092	24,789
Figs ... do.	11,311	1,719
Canned fish ... do.	1,775,885	740,276
Cheese ... do.	1,654,077	954,682
Salt ... do.	1,139,467	56,973
Sausages ... do.	37,668	36,852
Tea ... do.	459,296	459,296
Bacon ... do.	5,518	2,759
Wheat ... do.	3 051,041	122,042

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.	Quantity.	Official value.
Comestibles—Continued.		
Yerba—		
Paraguayan........kilograms	6,936,096	$970,764
Brazilian........do	13,837,059	1,383,707
Total	....	18,350,904
Liquors:		
Mineral waters, in bottles........dozens	84,885	135,267
Wormwood—		
In bottles........do	24,701	148,206
In casks........liters	94,814	37,359
Alcohol—		
In casks........do	242,001	39,658
In bottles........dozens	30,183	127,192
Bitters—		
In bottles........do	66,211	397,266
In casks........liters	19,592	8,228
Caña........do	65,033	9,753
Beer—		
In casks........do	647,456	110,067
In bottles........dozens	462,245	1,077,032
Chartreuse, in bottles........do	3,572	53,580
Cider—		
In bottles........do	1,784	3,747
In casks........liters	240	86
Brandy—		
In casks........do	134,771	48,518
In bottles........dozens	132,865	797,190
Gin—		
In bottles........do	2,427	7,299
In casks........liters	1,455,076	214,504
Sirups	....	1,602
Rum—		
In casks........liters	24,707	9,882
In bottles........dozens	4,471	35,768
Whisky—		
In bottles........do	9,334	39,199
In casks........liters	9,558	3,823
Wine—		
In bottles:		
Champagne........dozens	27,552	234,193
Sherry........do	9,690	77,520
Port........do	26,690	213,520
Bordeaux........do	18,124	108,744
Vermouth........do	82,261	493,566
All other........do	27,862	145,217
In casks:		
Vermouth........liters	68,033	20,409
Sherry........do	98,647	51,291
Port........do	125,955	65,494
Bordeaux........do	39,408,403	3,940,840
All other—		
Fine........do	28,848	8,489
Common........do	66,212,821	6,621,282
Vinegar—		
In casks........do	52,004	3,643
In bottles........dozens	8,102	12,173
Total	....	15,301,6[illegible]7

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.		Quantity.	Official value.
Tobacco:			
Cigars—			
Havana	kilograms	38,656	$354,751
Other classes	do	342,654	422,446
Cigarettes	do	8,921	16,977
Leaf—			
Havana	do	101,538	60,923
Other classes	do	4,089,480	872,213
Fine cut—			
Havana	do	72,954	58,360
Other classes	do	218,379	99,400
Snuff	do	8,952	10,718
Total			1,895,788
Spun and woven goods:			
Carpet matting	meters	61,049	25,520
Mats	dozens	1,200	3,963
Frieze	kilograms	25,744	9,385
Carpeting	do	642,042	634,291
Raw cotton	do	19,618	1,282
Pack-cloth	do	12,007,666	2,401,530
Bramant	do	2,140,607	1,498,425
Baize	do	5,461	10,161
Sail-cloth	do	453,474	452,813
Cassimeres—			
All wool	do	1,283,106	2,941,123
Mixed	do	598,584	538,723
Ribbons—			
Silk	do	21,765	500,595
Other classes	do	38,474	141,250
Cord—			
Silk	do	472	2,421
Other classes	do	212	506
Hair-cloth	do	43,230	3,475
Edging and inserting	do	139,302	762,758
Tow cloth	do	144,909	26,083
Blankets—			
Woolen	do	10,794	26,737
Other classes	do	126,867	139,284
Flannels—			
Woolen	do	360,528	721,056
Other classes	do	7,984	10,377
Thread—			
Pack	do	129,273	49,126
Common	do	1,004,005	177,980
Silk	do	7,125	111,572
Yarn	do	36,987	57,980
Impermeable cloth	do	287,825	107,182
Rope and cordage	do	1,022,729	196,326
Duck and sail-cloth	do	1,149,461	725,028
Wicking	do	92,000	71,185
Billiard cloth	do	8,482	32,230
Houseline and twine	do	1,708,579	600,947
Raw hemp	do	657,157	45,931
Soles for alpargata shoes	do	96[illegible],886	288,265
Prunella cloth	do	2,727	4,517
Gold and silver lace			12,871
Silk, woolen, and cotton lace	kilograms	27,920	152,567
Cotton goods	do	6,379,441	4,975,647
Hempen goods	do	111,288	49,569

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.	Quantity.	Official value.
Spun and woven goods—Continued.		
Linen goods .... kilograms	82,745	$168,548
Woolen goods .... do	349,406	965,752
Mixed goods .... do	735,309	1,899,700
Silk goods .... do	70,231	1,163,415
Jute goods .... do	122,375	35,472
Silk velvet .... do	2,092	38,368
Gutta-percha goods .... do	19,041	50,200
Chintz and calicoes .... do	1,463,454	1,317,105
Total	....	24,149,242
Clothing, etc.:		
Shirts .... dozens	33,113	357,562
Chemises .... do	4,967	36,130
Undershirts—		
Silk .... kilograms	1,591	25,461
Other classes .... do	316,968	398,621
Drawers—		
Silk .... do	5,702	8,8[illegible]4
Other classes .... do	6,799	4[illegible],034
Cravats .... dozens	54,628	15[illegible],449
Dressing-gowns, etc .... do	1,378	10,695
Collars and cuffs .... do	67,363	110,[illegible]
Corsets .... do	12,105	80,777
Hats and bonnets .... do	5,520	25,049
Gloves, other than kid .... do	4	103
Do .... kilograms	7,352	52,613
Stockings—		
Silk .... do	1,208	19,328
Other classes .... do	430,424	64[illegible],635
Pocket-handkerchiefs—		
Silk .... do	19,614	3[illegible],775
Other classes .... do	218,0[illegible]8	390,[illegible]0
External wearing apparel for men	....	1,328,703
Towels .... kilograms	84,120	12[illegible],[illegible]4
Umbrellas and parasols .... number	1[illegible]9,850	136,247
Hats and caps for men .... dozens	114,388	711,074
Various articles—		
Cotton goods	....	1,210,560
Linen goods	....	253,366
Woolen goods	....	600,758
Mixed goods	....	619,750
Silk goods	....	[illegible]
Other goods	....	[illegible],158
Total	....	[illegible]
Drugs and chemicals:		
Acids—		
Sulphuric .... kilograms	544,705	27,[illegible]8
Nitric .... do	3,[illegible]84	[illegible]
Other	....	4[illegible]4
Oils—		
Linseed .... kilograms	754,415	[illegible]
Palm .... do	[illegible]	[illegible]
Other	....	[illegible]
White lead .... kilograms	[illegible]	[illegible]
Tar .... do	[illegible]	[illegible]
Alum .... do	[illegible]	[illegible]
Liquid ammonia .... do	42,976	[illegible],042
Indigo .... do	1,30[illegible]	[illegible]
Sulphur .... do	93,486	3,654

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.	Quantity.	Official value.
Drugs and chemicals—Continued.		
Spirits of turpentine ... kilograms	376,306	$48,796
Varnish ... do	214,491	171,595
Bicarbonate of potassium ... do	1,185	540
Bicarbonate of soda ... do	105,642	7,395
Benzine ... do	44,036	6,930
Bitumen ... do	93,390	26,151
Borax ... do	38,589	9,949
Chlorate of lime ... do	62,615	3,148
Carbonate of magnesia ... do	2,186	874
Carbonate of potassium ... do	11,545	1,732
Carbonate of soda ... do	255,103	10,051
Glue ... do	187,549	27,941
Paints—		
In powder ... do	1,733,253	133,787
Prepared ... do	2,330,575	247,374
Fire-works ... do	70,375	24,632
Dextrine ... do	7,050	1,410
Stearine ... do	24,500	7,350
Essences	...	60,791
Specifics for curing sheep scab	...	334,085
Glucose ... kilograms	154,936	12,394
Phosphorus ... do	8,170	8,033
Gelatine ... do	20,421	12,687
Gums ... do	140,381	47,624
Glycerine ... do	17,409	7,539
Iodide of potassium ... do	663	3,978
Soap—		
Common ... do	34,988	8,646
Perfumed ... do	75,605	50,156
Malt ... do	2,439,197	243,920
Prepared chemicals	...	469,133
Perfumery	...	461,252
Resin ... kilograms	2,669,181	65,355
Potash ... do	16,742	3,428
Powder and other mixed explosives ... do	102,087	37,378
Pharmaceutical products	...	58,054
Chemical products	...	946,970
Chloride of soda ... hectoliters	603,829	374,401
Calcined soda ... kilograms	2,491,809	74,681
Caustic soda ... do	47,185	2,358
Sulphate of iron ... do	3,350	67
Sulphate of magnesia ... do	9,263	927
Sulphate of quinine ... do	36	1,440
Sulphate of lime ... do	374,390	7,922
Printing and lithographing ink ... do	44,425	13,362
Writing-ink, all kinds ... do	66,988	6,698
Turpentine ... do	481	49
Vaseline ... do	3,623	1,941
Total	...	4,756,797
Lumber and wooden articles:		
Lumber—		
Pine ... square meters	18,275,809	7,813,897
Walnut ... do	108,578	108,578
Oak ... do	54,212	38,372
Cedar ... do	175,320	74,652
Mahogany ... do	990	1,684
Quebracho ... do	129,086	25,817
All other kinds ... do	892,751	326,532
Trunks and boxes ... number	98,296	14,752

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.		Quantity.	Official value.
Lumber and wooden articles—Continued.			
Carts and carriages	number	961	$411,031
Shooks and staves	do	19,692	50,142
Musical instruments of wood			159,930
Launches and boats	number	34	117,360
Furniture in general			1,385,837
Pianos	number	2,637	569,059
Canes	dozens	4,904	21,855
Other articles of wood			987,360
Total			12,106,858
Paper and paper manufactures:			
Paper—			
Writing	kilograms	562,107	176,768
Drawing	do	18,462	9,232
Printing	do	4,994,345	1,308,456
Wall	do	282,627	118,718
Wrapping	do	1,007,366	218,498
Engraving	do	41,133	20,570
Cigarette	do	202,326	170,978
Blotting	do	9,966	3,907
Litmus	reams	7,697	20,036
Silk	kilograms	19,354	7,740
Albums	dozens	516	6,156
Playing-cards	gross	2,507	37,605
Pasteboard	kilograms	915,901	155,678
Papier-maché articles			330,[illegible]
Other articles of paper			328,121
Blank books	kilograms	290,241	191,351
Printed books	do	617,320	617,320
Printed music	do	28,545	22,886
Other printed matter	do	114,149	124,945
Polygraphic materials			70,[illegible]
Total			3,940,8[illegible]4
Leather and leather manufactures:			
Shoes—			
Leather	dozens	59,720	549,933
Other kinds	do	9,574	8,408
Pocket-books, cigar cases, etc	do	16,377	54,091
Valises and satchels	number	4,909	16,[illegible]
Saddles	do	2,241	22,718
Leather gloves	kilograms	2,435	38,980
Harness			207,4[illegible]
Other articles of leather			10[illegible],131
Hides dressed with the hair			4,761
Raw hides			4,144
Sole-leather	kilograms	3,303	7,[illegible]
Furs			1,4[illegible]
Total			[illegible]
Iron and iron manufactures:			
Steel, unmanufactured	kilograms	3,971,192	282,778
Anchors	do	19,601	1,[illegible]
Arms and munitions, etc			370,078
Wire—			
For fencing	kilograms	39,411,060	1,983,194
All other kinds	do	623,095	53,0[illegible]
Needles	thousands	37,250	2[illegible],3[illegible]8
Kitchen utensils			1,242,[illegible]
Nails	kilograms	2,417,404	218,016

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.	Quantity.	Official value.
Iron and iron manufactures—Continued.		
Chains .... kilograms...	516,578	$57,459
Safes .... do.....	345,093	75,923
Piping .... do.....	7,494,822	570,166
Stoves and stove pipes .... do.....	353,653	35,365
Knives and cutlery	....	365,381
Carriage and wagon springs and axles	....	144,050
Iron hoops .... kilograms...	137,746	5,558
Iron ornaments	....	1,294,132
Unmanufactured iron .... kilograms...	85,249,520	2,883,058
Tools and implements	....	1,027,454
Iron furniture	....	95,224
Pens .... gross...	63,479	12,696
Girders and columns .... kilograms...	26,957,295	1,081,578
Agricultural machinery and implements—		
Plows .... number...	39,469	369,123
Corn shellers .... do.....	1,230	29,133
Mowers .... kilograms...	31,034	15,957
Rakes .... do.....	35,542	11,728
Plowshares .... do.....	104,720	30,714
Planters .... number...	206	20,441
Harvesters .... do.....	4,088	544,020
Threshers .... do.....	63	76,410
Shovels, spades, and picks .... kilograms...	452,668	66,899
All other kinds	....	106,606
Pumps .... number...	892	13,944
Sewing-machines .... do.....	22,203	317,346
Printing and lithographing presses .... do.....	713	130,505
Presses of other kinds .... kilograms...	5,880	979
Other machinery	....	5,171,438
Other iron articles	....	5,964,315
Total	....	24,727,113
Materials for public works:		
Railways	....	19,249,811
Gas	....	1,138,024
Mining	....	196,975
Electric lighting	....	236,218
Sugar-mills	....	159,029
City sewerage	....	439,627
Madero port works	....	394,495
Tram-ways	....	638,570
Telegraph	....	45,781
La Plata public works	....	1,203,578
Telephones	....	30,832
Water-works	....	440,809
Total	....	24,173,749
Metals and their manufactures:		
Jewelry	....	949,544
Bronze—		
In powder .... kilograms...	2,550	7,650
Articles of art	....	6,598
Copper and bronze .... kilograms...	116,732	49,027
Manufactured	....	274,338
Tin composition .... kilograms...	74,124	31,133
Manufactured	....	6,545
Instruments—		
Scientific, etc	....	133,699
Musical	....	2,017

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.		Quantity.	Official value.
Metals and their manufactures—Continued.			
Tin	kilograms	1,922,137	$151,628
Manufactured			85,173
Metallic belting			625,248
Gold-leaf	thousands	460	20,7[illegible]
Lead	kilograms	1,829,865	160,708
Manufactured			240,501
Watches—			
Gold	number	12,299	336,858
Other metals	do	58,472	246,2[illegible]0
Clocks	do	41,486	63,916
Weights and scales	do	3,946	27,181
Printing type	kilograms	119,225	62,009
Zinc	do	2,782,903	2[illegible]5,747
Manufactured			35,432
Other metals, manufactured			118,910
Total			3,871,811
Glass and stone ware and ceramic products:			
Tiles—			
Flooring	thousands	15,516	30[illegible],508
Paving	do	3,064	77,967
Glass bottles	dozens	387,641	116,[illegible]
Lime	hectoliters	7,330	5,[illegible]
Crystals for watches and spectacles			14
Glassware in general			910,[illegible]05
Glass and porcelain lamps			611,7[illegible]3
Bricks	thousands	545	17,1[illegible]
Stone-ware			436,7[illegible]7
Marble and alabaster	square meters	61,907	123,1[illegible]1
Marble slabs for tables, etc.	do	6,941	14,8[illegible]6
Marble works of art, etc.			120,316
Mosaics	kilograms	[illegible],443,327	146,413
Terra cotta works of art, etc.			71,194
Precious stones, unset			221,617
Stones for lithographing	kilograms	78,471	7,848
Grindstones	do	2[illegible]4,[illegible]	9,560
Building stone			1,770,422
Slate roofing	square meters	20,[illegible]7	8,[illegible]6
Porcelain			340,375
Roofing tiles	thousands	44,978,716	[illegible]
Glass and crystal	square meters	414,122	176,160
Mirrors and looking-glass	do	30,470	1[illegible]5,[illegible]8
Total			6,[illegible]48,646
Combustibles, etc.:			
Candles	kilograms	[illegible]	122,263
Nut coal	do	[illegible]	6,[illegible]17,141
Coke	do	[illegible],510,340	41,0[illegible]1
Wax matches	do	514	[illegible]
Wooden matches	do	11,[illegible]	3,633
Kerosene	liters	18,[illegible]	[illegible]
Total			[illegible]
Miscellaneous manufactured articles:			
Fancy articles			1,[illegible]
Buttons	gross	[illegible]	306,1[illegible]
Cork	kilograms	212,996	[illegible]
Sponges	do	[illegible],193	[illegible]
Cases and work-boxes	dozens	152	[illegible]74

Table showing imports into the Argentine Republic in 1889—Continued.

Articles.	Quantity.	Official value.
Miscellaneous manufactured articles—Continued.		
Gutta-percha goods		$110,331
Toys		240,505
Pencils … gross	9,799	14,299
Hops … kilograms	56,773	28,390
Church ornaments		30,309
Pichua … kilograms	23,246	16,273
Paintings		76,822
Straw goods		162,248
Live plants		32,916
Leeches … thousands	50	750
Seeds … kilograms	644,289	94,298
Apothecary utensils, etc		413,587
Writing utensils and office materials		124,707
Various unenumerated articles		3,219,966
Total		6,305,826
Grand total		164,569,884

Table showing exports from the Argentine Republic during 1889.

Articles.	Quantity.	Official value.
Animal and animal products:		
Asses … number	8,821	$88,300
Horses and mares … do	5,961	102,005
Hogs … do	2	30
Sheep … do	19,526	66,526
Mules … do	12,104	242,080
Cattle … do	139,637	3,194,113
Horns … kilograms	1,756,710	278,614
Hair … do	1,794,622	1,157,525
Skins—		
Goat … do	1,045,280	821,590
Kid … do	369,554	598,677
Sheep … do	36,378,885	11,386,593
Ox and cow hides—		
Dry … number	2,424,596	8,448,069
Salted … do	966,177	5,260,945
Horse hides—		
Dry … do	40,358	77,487
Salted … do	156,616	759,588
Hide cuttings … kilograms	1,488,512	90,799
Wool, unwashed … do	141,774,435	56,709,774
Total		89,282,715
Agricultural products:		
Bran … kilograms	2,382,186	69,082
Peas … do	6,869	206
Canary-seed … do	1,110,558	66,633
Barley … do	231,286	7,818
Fresh fruit		11,299
Linseed … kilograms	28,195,816	1,607,162
Corn … do	432,590,679	12,977,721
Pea-nuts … do	240,365	9,615
Potatoes … do	367,428	14,697
Baled hay … do	20,434,032	572,153
Beans … do	49,359	2,468

Table showing exports from the Argentine Republic during 1889—Continued.

Articles.	Quantity	Official value.
Agricultural products—Continued.		
Seeds .... kilograms...	6,165	$247
Wheat .... do......	22,806,373	1,596,446
Total	....	16,935,547
Industrial products :		
Animal oil .... kilograms...	97,275	21,887
Sugar .... do......	134,492	17,484
Preserved meat .... do......	1,130,146	101,714
Canned soups .... do......	27,555	6,889
Frozen sheep carcasses .... do......	16,532,545	1,322,604
Specifics for curing sheep scab	....	2,746
Extract of beef .... kilograms...	52,834	105,668
Macaroni .... do......	40,958	8,191
Biscuits and crackers .... do......	217,421	19,567
Glycerine .... do......	470,083	188,033
Guano .... do......	550,000	16,500
Flour .... do......	3,360,876	510,853
Meat flour .... do......	79,400	19,850
Salted tongues .... do......	391,374	58,706
Butter .... do......	4,026	1,618
Pepsin .... do......	18,802	18,802
Wine, native .... liters...	31,121	4,979
Cheese .... kilograms...	6,630	1,266
Grease and tallow .... do......	18,319,282	3,297,471
Jerked beef .... do......	41,767,860	6,139,875
Tripes—		
Salted .... do......	121,584	4,863
Dry .... do......	3,650	128
Frozen beef carcasses .... do......	734,264	58,742
Other frozen meats .... do......	224,119	17,930
Total	....	11,946,366
Products of the forest :		
Vegetable carbon .... hectoliters...	134,307	134,307
Sleepers .... number...	1,934	5,802
Posts and palings .... do......	48,195	6,2[illegible]5
Various woods (cabinet)	....	93,169
Nandubay posts .... number...	252,415	88,357
Quebracho—		
Logs .... kilograms...	14,096,031	2[illegible]1,9[illegible]1
Timber .... do......	508,589	203,4[illegible]6
Total	....	7[illegible]3,[illegible]57
Mineral products :		
Auriferous sand .... kilograms...	202,090	34,355
Bismuth .... do......	78,710	275,4[illegible]5
Borax .... do......	121,160	7,[illegible]
Copper, in bars .... do......	56,390	22,536
Tin .... do......	353,468	176,733
Silver metal .... do......	25,840	258,400
Ore—		
Copper .... do......	167,545	45,[illegible]37
Silver .... do......	177,991	88,[illegible]5
Lead .... do......	110,007	8,800
Bullion—		
Gold .... do......	7	4,277
Silver .... do......	19,022	703,814
Lead, unmanufactured .... do......	31,860	2,549
Total	....	1,62[illegible],160

Table showing exports from the Argentine Republic during 1889—Continued.

Articles.	Quantity.	Official value.
Products of the chase:		
Skins—		
Carpincho … number	50,720	$76,587
Nutria … kilograms	102,431	133,160
All other kinds		27,069
Ostrich feathers … kilograms	31,505	74,983
Total		311,799
Miscellaneous articles:		
Bones and bone-ash … kilograms	27,680,373	653,857
Wax … do	12,423	3,727
Ice … do	96,800	1,936
Old iron … do	2,273,190	45,464
Honey … do	84,492	10,139
Live plants		1,400
Salt … hectoliters	85,300	52,886
Dried blood … kilograms	463,906	13,918
Vermicelli … do	10,500	1,260
Sole-leather		1,632
Leaf tobacco … kilograms	26,162	2,616
Linseed cakes (pressed) … do	199,278	29,891
Pea-nut cakes (pressed) … do	254,242	38,136
Roots … do	64,932	9,740
Other articles of native production		584,113
Other articles re-exported		247,024
Ship stores		218,474
Total		1,916,213
Grand total		122,815,057

TRADE BALANCES AGAINST THE COUNTRY.

From the foregoing tables will be seen once more the persistency with which the old habit of overtrading has for years continued to distinguish the foreign trade of the Argentine Republic. One would suppose, in the midst of the monetary and financial crisis which began four years ago and which has been gradually developing in its proportions, that there would be some let up to the bad business system of buying beyond one's means of payment, and that foreign merchants and manufacturers would have insisted, long ere this, on some curtailment of credit. But, in spite of crisis, in spite of a depreciated currency, in spite of the suspension of specie payments and an increasing amount of irredeemable bank-notes in circulation, the volume of foreign imports has continued to expand. Indeed, it has seemed to increase in inverse ratio to the ability of the country to meet the differences.

EXPANSION OF ARGENTINE TRADE.

The trade tables of the last ten years, placed in juxtaposition, tell the tale of Argentine book-keeping without the necessity of comment.

Table showing the balance of trade against the country.

Year.	Imports.	Exports.	Balance against the country.
1880	$45,535,880	$53,380,787	
1881	55,755,927	57,938,272	
1882	61,266,044	60,388,929	$707,115
1883	80,435,828	60,207,976	20,227,852
1884	94,056,144	68,029,836	26,026,308
1885	92,221,969	83,879,100	8,342,369
1886	95,408,745	69,834,841	25,573,904
1887	117,352,125	84,421,820	32,930,305
1888	128,412,110	100,111,903	28,300,207
1889	164,569,884	122,815,057	41,754,817

The facts are even worse than the above figures would indicate, since, as I have heretofore stated, the exports for 1888 and 1889 are given in paper instead of gold; so that the exports of 1888, reduced to gold at an average of 130 per cent. premium, actually represents only about $80,000,000, leaving a balance against the country for that year of about $48,000,000; while the exports of 1889, reduced to gold at an average of 162 per cent. premium, actually represents only about $75,000,000, leaving a balance against the country for 1889 of about $80,000,000. Such figures seem almost astounding, considering the limited resources and population of the country; and yet there they stand in black and white, embarrassing and weakening the credit of the nation.

It is not strange that the import trade of the Argentine Republic, with such tremendous balances every year to be met or tided over, is in a deplorable condition. It is not strange, with the premium on gold going higher and higher and the value of paper currency growing less and less, that the commercial situation has become almost desperate.

THE MONETARY PRESSURE.

The only wonder is that the merchants of the country, with such a pressure upon their business, have stood the crisis thus far as well as they have. It is true that even the strongest houses have had to ask extensions, and that many of the smaller ones, being in such good company, have even given up trying to make remittances against their foreign liabilities; yet, in the midst of it all, up to the present time there have been but few out-and-out failures. But, with trade at a stand-still, unable to make remittances and afraid to sell their goods on time, as heretofore, it seems that a collapse must yet come, sooner or later, and thus compel a general liquidation.

CONDITION OF THE EXPORT TRADE.

The hope, out of all these economic troubles, has been that the exports—for the country has been "booming" in every department of production—would show an increase in excess of importation, and thus ease up the unfortunate situation. I am surprised that the productive resources of the nation have not made a better showing during the last few years. The country has seemed to be developing on such a grand scale, with so many new cattle and sheep *estancias* opened up in the outside "camps" and such an annually increasing breadth of land planted in corn and wheat, that there was reason to expect a corresponding increase in the exports of both the agricultural and the pastoral industry. But a failure of the crop of 1889 quite balanced the gain in the shipments of wool. In the latter there was a gain of $11,851,168 over the previous year, but in wheat there was a decrease of $6,652,168 over the shipments of 1888; and thus, if there was encouraging increase in one item, there was corresponding loss in another. And though the figures, given in depreciated currency, show that the exports of 1889 were $22,703,154 greater than those of the previous year, yet, when reduced to gold, they were at least $5,000,000 less.

Thus the expectation, in which so many Argentine economists have been indulging, that the surplus products of the country were going to be amply sufficient to pay for the millions of dollars of luxuries annually brought to the river Plate from Europe has thus far utterly failed. But the coming harvest, the coming wool clip, may be better. It looks at present as though they would be, and our hopes are all now intently watching the shearing and the harvest. These may not alone be sufficient to save the situation, but they would greatly ease up the strain.

TRADE WITH THE UNITED STATES.

The trade of the Argentine Republic with the United States has, in common with that of Germany, Belgium, France, and Great Britain, been feeling the stimulus of the late "boom" and business expansion; and the returns, as we have already seen, show an unprecedented increase over those of any previous year. For the purposes of comparison I repeat the figures since 1879:

Year.	Imports.	Exports.	Total.
1879	$3,921,379	$3,917,676	$7,839,055
1880	3,224,743	5,126,429	8,351,182
1881	4,268,110	4,035,714	8,323,824
1882	5,094,764	2,956,582	8,051,546
1883	4,933,054	3,510,574	8,443,628
1884	7,454,832	4,064,848	11,519,686
1885	7,006,719	5,563,841	12,570,560
1886	7,673,284	3,580,406	11,253,690
1887	11,004,553	5,938,808	16,943,361
1888	9,909,895	6,665,520	16,575,415
1889	16,801,750	7,726,691	24,528,441

Here we have an increase of $6,891,855 in imports, an increase of $1,061,171 in exports, and an increase of $7,953,026 in total volume of trade, over the figures of 1888, to say nothing of what is credited to other countries.

Imports.—While it is impossible to give the exact figures of our trade with the Argentine Republic, owing to the fact that what comes through British and German steamers is not credited to us, yet, as the best I can get, I give from the returns of the national statistical office the following detailed tables of our imports for the year 1889. In truth, however, the imports from the United States should be several millions of dollars more than the Argentine custom-houses make them.

Table showing imports from the United States.

Articles.		Quantity.	Official value.
Olive oil	kilograms	9,089	$2,709
Olives	do	5,800	870
Starch	do	203,942	27,991
Refined sugar	do	28,[illegible]5	5,363
Cod-fish	do	20,570	3,472
Coffee	do	20,503	6,254
Meat	do	1,682	849
Barley	do	2,556	2,556
Chocolate	do	105	57
Confectionery	do	1,[illegible]	629
Spices and condiments	do	3,000	120
Flour	do	240	55
Hams	do	1,450	753
Tongues	do	1,065	816
Butter	do	12,381	6,542
Lard	do	399,040	93,016
Bread and crackers	do	2,948	884
Preserved fish	do	106,553	42,655
Cheese	do	4,10	255
Tea	do	400	400
Wheat	do	1,004,[illegible]	40,180
Mineral water, bottled	dozens	1,102	2,204
Alcohol and liquors, bottled	do	515	2,170
Beer:			
Bottled	do	2,480	5,842
In casks	liters	21,000	3,004
Brandy, bottled	dozens	120	720
Whisky, bottled	do	333	1,482
Vermouth, bottled	do	25	150
Wines:			
Bottled	do	160	750
In casks	liters	760	77
Cigars:			
Havana	kilograms	2,401	14,109
Other kinds	do	534	708
Cigarettes	do	2,654	5,308
Tobacco:			
Leaf—			
Havana	do	2,060	1,341
Other kinds	do	274,727	92,751
Cut—			
Havana	do	[illegible]	150
Other kinds	do	6,410	3,101
Raw cotton	do	4,[illegible]	274
Pack-thread	do	[illegible]	603
Baize	do	1[illegible]4	264
Tow	do	4,7[illegible]	800
Blankets	do	1,010	2,174

Table showing imports from the United States—Continued.

Articles.	Quantity.	Official value.
Thread:		
Cotton (spools) ... dozens	5,000	$2,000
Silk ... kilograms	209	2,932
Impermeable goods ... do	2,694	1,349
Rope and cordage ... do	51,059	9,902
Canvas ... do	410,365	312,821
Lamp wicks ... do	46,235	36,089
Houselines ... do	949,628	383,457
Cotton goods ... do	169,917	125,767
Hempen goods ... do	526	263
Linen goods ... do	24	76
Woolen goods ... do	200	600
Jute goods ... do	1,375	207
Prints ... do	27,864	25,078
Chimeses ... dozens	509	962
Drawers ... kilograms	4	12
Gloves, other than kid ... do	3,000	4,500
Pocket-handkerchiefs ... do	82	246
Ready-made clothing	...	730
Silk hats ... dozens	11	220
Various manufactured articles:		
Cotton	...	1,898
Linen	...	276
Wool	...	296
Mixed goods	...	12,812
Silk	...	50
Acids, all kinds	...	334
Linseed-oil ... kilograms	9,175	909
Oil of other kinds	...	123,132
Tar ... kilograms	100	5
Spirits of turpentine ... do	356,478	46,252
Varnish ... do	36,001	28,865
Benzine ... do	41,010	6,153
Bitumen ... do	46,120	13,303
Chlorate of lime ... do	14,660	736
Carbonate of soda ... do	1,376	56
Glue ... do	90	14
Paint:		
Crude ... do	25,667	2,158
Prepared ... do	35,795	3,881
Fire-works ... do	55,475	19,424
Essences	...	3,721
Specific for curing sheep-scab	...	17,154
Soap:		
Common ... kilograms	2,630	694
Perfumed ... do	1,778	1,787
Prepared medicines	...	62,949
Perfumery	...	12,823
Resin ... kilograms	1,373,065	34,328
Potash ... do	11,707	1,760
Pharmaceutical products	...	4,760
Chemical products	...	58,346
Salt ... hectoliters	200	124
Calcined soda ... kilograms	20,000	870
Printing ink ... do	250	55
Vaseline ... do	3,609	1,934
Lumber:		
Pine ... square meters	16,371,029	6,956,940
Walnut ... do	71,160	71,160

Table showing imports from the United States—Continued.

Articles.		Quantity.	Official value.
Lumber—Continued.			
Oak	square meters	52,509	$37,010
Cedar	do	45,224	15,034
Mahogany	do	970	1,684
Other kinds	do	173,990	81,336
Trunks and boxes	number	6,549	1,752
Carriages and carts	do	332	[illegible]
Shooks and staves	do	6,332	13,577
Musical instruments of wood			2,442
Launches and boats	number	7	3,600
Furniture			281,827
Pianos	number	33	6,150
Other articles of wood			[illegible]
Writing-paper	kilograms	5,070	2,036
Wall paper	do	[illegible]	[illegible]
Wrapping paper	do	[illegible]	58
Letter paper	reams	6,708	17,430
Playing-cards	gross	3	45
Pasteboard	kilograms	[illegible]	[illegible]
Papier-maché articles			445
Other articles of paper			[illegible]
Blank books	kilograms	1,168	[illegible]
Books, printed	do	[illegible]	[illegible]
Other printed matter	do	[illegible]	[illegible]
Lithographs, engravings, etc			675
Boots and shoes	dozens	4	52
Valises and satchels	number	155	[illegible]
Leather goods in general			[illegible]
Tanned skins			[illegible]
Arms and accouterments			[illegible]
Wire:			
Fencing	kilograms	[illegible]	[illegible]
Other kinds	do	[illegible]	470
Needles	thousands	56	[illegible]
Kitchen utensils			[illegible]
Nails	kilograms	[illegible]	6,735
Iron safes	do	[illegible]	[illegible]
Stoves and piping	do	[illegible]	[illegible]
Cutlery			[illegible]
Iron ornamental articles			[illegible]
Iron, unmanufactured	kilograms	[illegible]	[illegible]
Tools and implements, artisan and domestic			[illegible]
Iron furniture			[illegible]
Iron joists and columns	kilograms	[illegible]	[illegible]
Plows	number	[illegible]	[illegible]
Husking machines	do	[illegible]	[illegible]
Mowers	kilograms	[illegible]	[illegible]
Rakes	do	[illegible]	[illegible]
Plowshares	do	[illegible]	[illegible]
Planters	number	8	4
Reapers	do	[illegible]	[illegible]
Threshing machines	do	7	[illegible]
Spades, shovels, and picks	kilograms	[illegible]	[illegible]
Other agricultural implements			[illegible]
Pumps	number	[illegible]	[illegible]
Sewing-machines	do	[illegible]	[illegible]
Printing and lithographing presses	do	36	[illegible]
Other machinery and engines			[illegible]
Other manufactures of iron			[illegible]

Table showing imports from the United States—Continued.

Articles.	Quantity.	Official value.
Materials for public works:		
Railways		$1,444,614
Gas		35,252
Mining		10,490
Electric light		53,784
Sewerage works		77,761
Madero port works		10,000
Tram-ways		29,820
La Plata public works		198,196
Jewelry		3,298
Copper and bronze, manufactured		1,951
Scientific instruments		3,193
Tin:		
Unmanufactured .... kilograms	59,159	4,766
Manufactured		675
Iron hoops		28,242
Watches:		
Gold .... number	6	180
Other metals .... do	1,542	4,203
Clocks .... do	14,985	26,519
Lead, manufactured		753
Weights and scales .... number	1,682	13,320
Zinc, manufactured		73
Other metals and their manufactures		600
Glassware		6,755
Lamps		51,938
Earthenware		2,443
Marble, alabaster, etc		5,751
Grindstones .... kilograms	67,712	2,828
Building stone		7,367
Porcelain ware		3,122
Hydraulic cement .... kilograms	3,080,501	62,610
Candles .... do	7,420	2,226
Coal .... do	49,764,310	432,239
Coke .... do	273,044	4,952
Kerosene .... liters	14,887,260	744,363
Fancy articles		818
Cork .... kilograms	270	81
Sponges .... do	874	1,748
Gutta-percha articles		1,893
Toys		5,570
Church decorations		540
Straw goods		3,693
Seeds .... kilograms	60	20
Apothecary apparatus		16,351
Office materials		2,4[illegible]1
Miscellaneous articles		237,517
Total		16,801,750

As showing wherein our imports to the Argentine Republic have increased and wherein they have diminished, I reproduce the following comparison of figures for the last six years:

Articles.	1884.	1885.	1886.	1887.	1888.	1889.
Turpentine	$34,430	$25,152	$48,933	$110,546	$50,031	$46,252
Starch	49,448	45,438	41,071	42,879	5,848	27,991
Agricultural implements	136,530	611,002	455,450	580,891	662,090	946,888
Lamps, gas fixtures, etc	66,159	86,596	69,404	70,508	77,915	61,136
Lumber	2,817,146	3,453,719	3,352,620	6,117,847	4,964,140	7,162,194
Furniture	92,517	129,792	289,246	248,396	406,248	281,827
Cotton goods	178,178	200,697	238,716	366,695	179,991	150,845
Hardware, etc	240,694	226,073	542,824	562,447	739,667	1,827,756
Kerosene	866,741	341,891	707,220	1,009,540	611,067	744,363
Railway materials and machinery, etc	834,168	392,119	165,020	248,940	650,663	2,782,319
Drugs, chemicals, etc	62,355	82,224	342,658	369,118	394,537	443,538
Hempen and woolen goods	189,136	165,534	417,207	171,455	325,954	753,647
Tobacco and cigars	208,420	98,542	77,856	100,903	58,394	120,748

In all these principal lines of goods the returns show an increase, except in furniture, gas fixtures, and cotton goods; and the reason that the latter appear to have decreased is that large quantities of these imports have arrived here by steamer via Liverpool or Bremen, and hence, in the custom-house statistics, are credited to either England or Germany. But the principal increase in imports from the United States has been in agricultural implements and machinery, in lumber, in hardware, and in materials and machinery for public works. It will be observed that we have also done considerable business in lard, dried fish, pianos, patent medicines, resin, and carriages; and, when it appeared that the country was short of breadstuffs, we sent out 1,005 tons of wheat. We are credited with having imported cheese to the value $258 and hams to the value of $783, when it is known that the great proportion of these two articles actually comes from the United States.

Exports.—The crisis has had no effect upon the exports to the United States of Argentine products. On the contrary it has quite stimulated such trade, for the reason that hides and wool are purchased with paper currency and sold in the United States for gold, there always being a margin between the two for satisfactory shipments. It is on this account that the exports have gone up to such unprecedented figures, the increase over last year's shipments amounting to $1,061,171.

The following is a comparative table of the value of the principal articles of export for the last six years:

Articles.	1884.	1885.	1886.	1887.	1888.	1889.
Ox and cow hides	$2,462,244	$2,384,087	$1,764,810	$3,696,235	$4,487,714	$4,026,885
Wool	602,637	1,187,155	911,082	1,200,190	794,205	2,042,506
Goat-skins	161,143	955,428	234,938	342,324	622,204	649,774
Hair	244,643	182,713	184,964	270,696	239,774	249,302

Table showing exports to the United States.

Articles.	Quantity.	Official value.
Horses and mares ... number	13	$195
Cattle horns ... kilograms	26,172	4,151
Hair ... do	386,514	249,302
Skins:		
Goat ... do	826,684	649,774
Kid ... do	319	517
Sheep ... do	472	148
Hides:		
Ox and cow—		
Dry ... number	1,144,593	3,992,440
Salted ... do	13,700	32,880
Horse ... do	811	1,557
Hide cuttings ... kilograms	132,308	8,072
Wool, unwashed ... do	5,106,264	2,042,506
Bran ... do	200	6
Peas ... do	1,080	32
Barley ... do	100	3
Linseed ... do	6,755,263	385,050
Corn ... do	960	29
Potatoes ... do	25,650	1,026
Hay ... do	9,800	274
Beans ... do	4,500	225
Wheat ... do	578,133	40,469
Sugar ... do	5,005	650
Preserved meat ... do	13,296	1,197
Macaroni ... do	10,530	2,106
Biscuits and crackers ... do	62,623	5,637
Flour ... do	16,130	2,573
Butter ... do	283	113
Wine, native ... liters	1,720	275
Cheese ... kilograms	183	37
Tallow ... do	315	57
Jerked beef ... do	1,050	154
Tripes ... do	23,000	920
Vegetable carbon ... hectoliters	2,500	2,500
Auriferous sand ... kilograms	3,920	666
Skins:		
Carpincho ... number	46,242	69,825
Nutria ... kilograms	23,400	30,420
All others	...	6,070
Ostrich feathers ... kilograms	26,865	63,030
Bones and bone-ash ... do	4,491,030	106,609
Old iron ... do	625,750	12,515
Honey ... do	50	6
Salt ... hectoliters	570	353
Dried blood ... kilograms	98,152	2,066
Various articles of national production	...	8,195
Various articles re-exported	...	238
Total	...	7,726,691

The total shipments of dry ox and cow hides from the Argentine Republic for 1889 were 2,424,596 in number, of which 1,144,593 went to the United States. The quantity of Cordoba, or carpet, wools which was sent to Boston mills during 1889 was 5,106,264 kilograms—nearly the entire clip of the interior provinces. It also appears that, while the entire exports of flaxseed were 28,195 tons, only 6,755 tons were sent to the United States. A new branch of exports to the United States has, during the last year, been inaugurated here, that of salted sausage coverings; and the business promises to be successful. In other lines the exports to the United States are so trivial as to require no special notice at this time.

OUTLOOK FOR AMERICAN TRADE.

The conditions of our trade with the Argentine Republic continue as heretofore. We are still without regular steam-ship communication between the two countries; we are still without proper banking facilities; we are still without distinctive North American business houses. Whatever comes from us to the river Plate either comes by the tedious and uncertain transport of sailing vessels or indirectly in steamers via Bremen or Liverpool, and it comes, not because we have American merchants here who are laboring to build up and increase the trade between the two countries, but because English and other foreign merchants find it to their profit to deal in American goods.

The recent Pan-American Convention at Washington, at which various measures looking to closer commercial relations between the United States and the countries of South America were discussed, has had, I think, a beneficial effect here in Buenos Ayres, as showing at least our good intentions and our aspirations. The newspapers here duly paraded the scheme for an international bank, and the criticisms in reference to it were generally favorable. The prospect of direct steam communication is hailed as the forerunner of better trade understandings with the Argentine Republic. The same may be said of the project of uniting the three Americas by an uninterrupted line of railway. Indeed, the Argentine Congress has already approved the measure and appointed its quota of engineers to study the subject.

All these things, of course, are mere auxiliary measures to smooth and make plain the way to a greater and more satisfactory commerce between the two countries, and can only have an indirect effect in promoting trade. That must come from an actual demand down here for our products and an actual want on our part for Argentine raw materials. Any and all plans which tend to stimulate these two objects will assist in bringing the river Plate and the United States into closer commercial relations.

Just now, however, the times are most unfortunate for any attempts in this direction. Business, at the present time, is so paralyzed in the Argentine Republic that there has quite ceased to be the necessary demand; and credit has become so shaken, if not broken down, that it is difficult to know whom to trust. Indeed, business confidence, especially in the foreign trade, has, for the present, quite ceased to exist.

GENERAL BUSINESS PROSPECTS.

Under these circumstances it would seem hardly worth while for me to go into detailed exhibits to show in what special classes of goods we might increase our trade or in what particular lines of exports we might be able to open a new market. On the contrary, I think it is better for me to say that just at the present time the more careful our merchants and manufacturers can be in filling orders and the more emphatic they may be in refusing credits the fewer losses they will incur and the fewer bad debts they will have to transfer to the account of profit and loss. Indeed, the merchants of the Argentine Republic—even the best of them—are now struggling under the weight of the bad business methods which they have been following. Suffering from the long credits which they have heretofore given their customers and pushed now by the crisis and the depression to close up the credits they have heretofore so generously received from their correspondents abroad, the only safe course for all parties is to restrict orders to the sheerest necessities of trade and, instead of contracting additional obligations, to liquidate in every possible manner those which they may still have outstanding. Otherwise I may not be able to predict all the dire results which may ensue, both to merchants here and to creditors abroad. Indeed, as it is, it would seem that a general liquidation is almost unavoidable; and, until commercial transactions once more stand upon a solid gold basis, I do not think that business in the Argentine Republic can be considered as either satisfactory or safe. The ordeal may appear hard, but just now every thing seems to be tending in that direction.

GENERAL PARALYSIS OF CREDIT.

The truth is the Argentine Republic is suffering from a paralysis of credit. It is the reaction from a too great expansion of credit. A crisis like that through which the country has been passing for the last few years can not be terminated by a mere change in the administration of public affairs. It can not be brought to an end even by the most efficient measures of financial reform that Congress or the new Government may adopt. These may direct, but they can not put a stop to, the business chaos into which, by bad and dishonest methods, the country has been plunged. The crisis must go on to its legitimate end. It must work itself out. The "fool's paradise" in which the Argentine people have been so complacently living for the last few years must be wiped out of existence. Inflation must give place to "hard pan." The fictitious values which were placed upon every thing to be bought or to be sold must be superseded by real values. There must be a general shrinkage commensurate with the inflation, and, until that shall have taken place, it will be wise for all parties concerned to keep aloof from Argentine markets.

It has been the general boast among those who were pushing on the "boom" that this was an "exceptional country," and that the ordinary laws of trade, currency, and banking, however requisite to be followed in such countries as England or the United States, had no significance or applicability in the Argentine Republic. Here, it was insisted, all manner of violations of economic principles could be practiced with impunity, and the country would flourish by the outrage. The present prostrate condition of both public and private credit shows the inherent fallacy of such an assumption.

I only fear that the country will for a long time have to walk in the valley of humiliation and endure a protracted period of business and financial depression before it will again be able to hold up its head and present that buoyant and triumphant look which it has heretofore so proudly worn.

TRADE RETURNS FOR 1890.

It may be, however, that the trade of the country is already on the turn for the better; that the excess of imports over exports, which has heretofore so assisted to embarrass the situation, will no longer be permitted to exist. At least the trade returns for the first nine months of 1890, which have just been published by the statistical office, not only show no inconsiderable reduction in the volume of imports, but such an increase in that of exports that the balance of the trade, for the first time in ten years, is once more in favor of the Argentine Republic. I hasten, as the only re-assuring portion of my report, to give the gratifying figures.

The following are imports and exports to September 30, 1890, compared with the corresponding period of the previous year:

Description.	1889.	1890.
Imports	$121,987,474	$115,903,947
Exports	116,754,077	174,021,472

Here is a decrease of $6,083,527 in imports and an increase of $58,117,525 in exports so far this year, making a total balance for the last nine months of $64,200,052 in favor of the Argentine Republic.

Imports and exports.—The following table gives the imports and exports of each country for the period of nine months above mentioned:

Country.	Imports.	Exports.
Germany	[illegible]	[illegible]
West Indies	....	[illegible]
Belgium	8,414,445	23,149,167
Bolivia	34,792	[illegible]
Brazil	2,636,530	[illegible]
Chili	34,012	[illegible]
Spain	[illegible]	[illegible]
United States	[illegible]	[illegible]
France	15,473,173	[illegible]
Italy	[illegible]	[illegible]
Holland	696,077	[illegible]
Paraguay	[illegible]	[illegible]
Portugal	[illegible]	[illegible]
Great Britain	[illegible]	[illegible]
Norway and Sweden	141,747	[illegible]
Uruguay	[illegible]	[illegible]
Countries not designated	[illegible]	[illegible]
Total	[illegible]	[illegible]

Increase of the exports.—This gratifying exhibit of the exports of the country—the more so, on account of the general business depression—may be divided into the following categories:

Products.	Value.	Products.	Value.
Pastoral industry	$107,516,618	Mining industry	$524,764
Agriculture	44,614,774	The chase (pelts and ostrich feathers)	617,947
Industrial (frozen meat, jerked beef, flour, etc.)	14,922,963	Unenumerated articles	4,912,864
Timber	911,542	Total	174,021,472

If the Argentine Republic will only keep on in this line, there may be hope of financial improvement sooner than has been expected.

ARGENTINE TARIFF FOR 1891.

The necessities of the Government, rather than any consideration of protection, induced the recent National Congress to make a very large increase in the rate of duty on a considerable number of articles.

I translate the following most important sections of the law:

IMPORT DUTIES.

ARTICLE 1. All foreign merchandise imported for consumption shall pay a duty of 25 per cent. on its valuation in deposit, except as follows:

(1) Cigars of all kinds, snuff, objects of art and fancy; carriages, finished or unfinished; harness, reins and bits for same, ready-made clothing, confections, hats, shoes in general; furniture, finished or in pieces; chocolate, cheese, butter and lard, fish and meats, and fruits preserved in any form, which shall pay a duty of 60 per cent.

(2) Tobacco of all kinds, which shall pay a duty of 55 per cent.

(3) Arms and accouterments, powder for sporting purposes, ammunition, cartridge shells, all kinds of perfumery, which shall pay a duty of 50 per cent.

(4) Book covers of all kinds, matches (other than wax), fire-crackers, prepared yerba maté, which shall pay a duty of 45 per cent.

(5) All silk and mixed goods, lace and lace trimmings, insertings, gilt wire, and leather in general, which shall pay a duty of 40 per cent.

(6) Paving stone, curbing, trotting horses, which shall pay a duty of 30 per cent.

(7) Linens, bramants, oxfords, satinets, bindings, cotton ticking, cotton drills, chintz goods, calicoes, rice, farina, and dynamite, which shall pay a duty of 15 per cent.

(8) Iron and steel, not galvanized, in sheets, ingots, or bars; white pine and spruce, unworked; hoops, all kinds of writing and printing paper, hydraulic cement, and iron beams and pillars, which shall pay a duty of 10 per cent.

(9) Canvas and pack-cloth, jewelry, sewing and embroidery silks, every instrument or utensil with a handle or adorned with gold or silver, presses, utensils and materials which serve exclusively for printing (with the exception of types), lithographic presses, all kinds of agricultural or industrial machinery; steam, gas, and electrical engines; detached pieces for repairing machinery, twine and wire in carrots for binding, sulphuric acid, sulphate of lime, tin, tin composition, lead, zinc in ingots or bars, which shall pay a duty of 5 per cent.

(10) Precious stones, which shall pay a duty of 2 per cent.

(11) The following specific duties, to wit:

Articles.	Duty.	Articles.	Duty.
Starch.........per kilogram...	$0.09	Beer or cider, in bottles.........per liter...	$0.15
Coffee.........do......	.08	Brandy, gin, anis, kirsch, bitters, etc.:	
Macaroni.........do......	.09	In casks.........per liter...	.25
Crackers and biscuits.........do......	.15	In bottles.........do......	.30
Flour and corn meal.........do......	.05	Liquors of all kinds, to 25°, in bottles*.do......	.30
Shelled corn.........do......	.05	Kerosene.........do......	.05
Tea of all qualities.........do......	.30	Stearine or paraffine candles. per kilogram...	.18
Sugar:		Stearine.........do......	.14
Not refined.........do......	.07	Playing-cards of all kinds.........per gross...	40.00
Refined.........do......	.09	Wax matches.........per kilogram...	.50
Wine:		Straw paper or other varieties for bags or	
Common, in casks.........per liter...	.08	for furring, paper bags, and colored pa-	
Fine, in casks.........do......	.25	per.........per kilogram...	.15
In bottles, of whatever quality......do......	.25	Hats:	
Alcohol:		Silk.........each...	2.50
In casks, not exceeding 30°.........do......	.15	Felt.........do......	1.00
Bottled.........do......	.25	Wool.........do......	.50

*Of greater strength, in bottles, in proportion.

All articles of weight which have two or more coverings or wraps shall pay the specific duty on the immediate covering, except tea, which shall pay according to net weight.

ART. 2. The following articles shall be imported free of duty, to wit: White sand (de Fontainebleau), plows; wire of iron or steel to Nos. 12 and 13, respectively; breeding animals, whether sheep, cows, bulls, hogs, or horses; cotton threads for looms, quicksilver, sulphur; boats in general, rigged and unrigged; drills for mining, up to 75 meters in length; benzine, stone-coal and charcoal, iron pipes (not galvanized) of 75 centimeters in diameter, wooden or iron casks for tunning, frames for casks of 2 kilograms, corks, shooks for barrels, specifics for curing scab in sheep; cases, boxes, etc., for packing preserved meats; fresh fruits, dynamite, guides and torches for mines, glycerine for industrial purposes, books in paper or rustic binding, school books, locomotives, fire-brick, hops, steam-engines, machinery and materials for gas-lights, corn on the cob, tools and furniture of immigrants, coined money, materials for tram and railway tracks, machinery for the preparation of meats for export by any modern system, nitrate of soda, gold-dust, gold in bars or grains, vegetable fiber, fresh fish, silver in bars, plants, especial powder for mines, wheels for railway or tram cars, seeds for planting, wheat, molding earth, school furniture and supplies asked for by the provincial governments, engines and machinery for new manufacturing establishments.

No article shall be exempt from duty which is not expressly named in this law.

ART. 3. There shall be no duties on exports, except in the case of old iron, which shall pay an export duty of $5 per ton.

By a supplemental law an additional duty of 1 per cent. on the valuation is assessed on all articles imported for consumption.

Warehouse charges remain as they were under the law of 1889.

REVENUE AND EXPENDITURES.

The estimates of the minister of finance placed the national revenues at $60,224,000. They reached to $72,903,756, against $57,110,734 in 1888.

The following table gives the sources of revenue for 1889:

Sources of revenue.	Amount.	Sources of revenue.	Amount.
Importations	$46,610,018	Judicial deposits	$81,620
Warehousing	1,136,434	Receipts from—	
Stamped paper	4,380,201	Central Argentine Railway stock	560,128
Stamps and seals	255,051	Andine Railway stock	236,029
Licenses	1,530,736	National Bank stock	3,612,003
City taxes of Buenos Ayres	3,147,404	Tax on bank-notes	984,803
Post-office	1,400,066	Port and mole dues	849,085
National telegraphs	607,969	Sundries	7,221,393
Light-houses	207,801	Total	72,903,756
Sanitary visits	73,115		
Timber-cutting permits	8,820		

The general appropriations for the support of the Government, not including appropriations under special laws, were as follows:

Department.	Amount.	Department.	Amount.
Interior	$15,616,733	War	$8,310,781
Foreign relations	1,446,120	Navy	2,908,712
Finance	24,745,572	Total	61,785,746
Justice, worship, and education	8,757,828		

The estimates for the present year are the same as for the last, and the amount of the appropriations also remains the same.

In the face of these figures it might have been supposed that, under ordinary circumstances and in a state of profound peace, the financial condition of the Argentine Republic would be all that could be desired; that it is not so, however, is only too true. The affairs of the nation for a series of years have been under the control of unskillful or unscrupulous politicians. They have used their positions, not for the best interests of the State, but for their personal profit. Instead of limiting the Government to do the work for which all governments are instituted among men, it is notorious that the late public authorities made use of it and of its credit to promote enterprises which should have been left to individual capital; to assist particular schemes which should have remained in the hands of private parties; to float free banks all over the country based on a paper capital, and thus flood the avenues of trade with depreciated bank-notes; to loan money or issue cédulas on bond and mortgage on a false system of valuation, and, generally, to "boom" the country by a general inflation of prices and values, which were purely fictitious and, in the nature of things, could not long continue. We all know the result—financial chaos and confusion, revolution and political overturnings. In the midst of all this, if any one can, just at present, tell the exact condition of the national finances, he has not yet come to the front. Various "authoritative" statements appear from time to time, but none of the figures agree with each other.

FOREIGN DEBT OF THE NATION.

In regard to the foreign bonded debt of the nation, that is supposed to remain at about the figures of a year ago. Various efforts looking to a new loan have been made during the year, and, indeed, some of them are still in the hands of the foreign money-lenders; but thus far the terms of contract have not been agreed upon. In my last annual report, on the authority of Mr. Agote's tables, I gave the foreign debt of the nation at $129,018,762. Mr. Latzina, in his statistical report, now states it at $102,313,035, while the President of the Republic, in his late message to Congress, figures it as follows:

At 6 per cent. interest	$1,703,016
At 5 per cent. interest	60,994,962
At 4½ per cent. interest	45,899,784
At 3½ per cent. interest	13,270,633
At 3 per cent. interest	414,792
Total	122,283,176

But the President goes on to say that—

> The public funds bearing 4½ per cent. interest which the guarantied national banks have deposited in the bank inspector's office do not figure in the above sum total of the bonded debt, because said debt has no amortization and is really not in circulation.

The idea that national bonds held as a guaranty or security are not to be counted as a part of the public debt is rather novel, to say the least. The total amount of such bonds is uncertain, but enough were deposited to guaranty about $200,000,000 of national bank-notes.

INTERNAL INDEBTEDNESS OF THE NATION.

There is the same uncertainty in amount of what is known as the Argentine internal debt. A year ago Mr. Agote stated it at $207,322,480. The statistical tables of Mr. Latzina put it at $192,846,798, and the President, in his last message, gives the amount at $201,153,197.

TOTAL DEBT OF THE ARGENTINE REPUBLIC.

Taking the President's figures, the total debt of the nation on the 31st of December, 1889, not including the amount of bonds deposited to secure the free banks, was as follows:

Amount payable abroad	$122,283,176
Amount payable at home	201,153,197
Total	323,436,373

The difference, however, in the status of these debts is that, while the former calls for gold, the latter can be liquidated in the currency of the country.

The amount of the appropriation made by Congress last year to meet the service of the public debt was $17,842,760; for the present year it is the same.

PROVINCIAL DEBT ASSUMED BY THE NATION.

Had the Argentine Government no further charge than that of providing for the service of its own indebtedness, the situation would seem to be without any immediate embarrassment; but the various provinces, following the national example, have of late years also been presenting themselves in the money centers of Europe as eager borrowers. Though lacking in population and the visible elements of wealth, they saw how easy it was, by parading their advantages and opportunities for investment to the world, to obtain fabulous sums on bond and mortgage, and with the proceeds they went into the business of free banking with a recklessness which the money-lenders ever pandered to. What sums they raised and what sums they squandered by these means is not fully known to outsiders; but Mr. Agote, in a report to the Government a year ago, figured the foreign indebtedness of the different provinces at $193,577,582. There is now little or nothing to show for these loans; the banks they organized have been "sucked dry," and the provinces, utterly impecunious, are without the means to meet the service of the interest on their debt.

It would seem that the National Government, in the midst of the crisis, had as much as it could well do to look out for itself; but the new Government of Dr. Peligrini, actuated by a desire to place the credit of the Republic above suspicion, has deliberately assumed the debts of the spendthrift provinces. The following are the terms of the law just enacted by the Argentine Congress:

The Senate and Chamber of Deputies sanction with force of law, etc.:

ARTICLE 1. In case any province should be unable to meet the service on its foreign debt, the executive power is hereby authorized to take over same after an agreement with the respective provincial government.

ART. 2. All the banks, public works, national bonds, or other values held on proceeds arising from these foreign loans shall fall to the nation.

ART. 3. In the eventuality of the nation taking over the foreign loan of any province, the National Government shall negotiate with the foreign creditors of that province for the conversion of their provincial bonds into national bonds of 4½ per cent. and 1 per cent. accumulative amortization at par. The National Government is hereby authorized to issue the necessary amount of such bonds for conversion purposes.

ART. 4. Henceforward no province or municipality shall have power to contract loans abroad. Should, however, any such foreign loans be contracted, let it be hereby understood that no direct or indirect responsibility on such operations can be attached to the nation, nor shall any protests or any negotiations on this head be countenanced by the National Government.

ART. 5. The national executive shall inform Congress next session of the use it has made of this law.

ART. 6. Let this be communicated, etc.

The reasoning of the new President in favor of the law is so unique that as a matter of general interest I give his message to Congress in full:

The executive power is at present engaged in a study of the general condition of the provinces, with a view to organize elements and resources, in order to raise them from their present prostration and give fresh impetus to their economic and commercial vitality. The task is slow and arduous, but there are some questions that require an imperious solution to remove obstacles in the way of the Government.

Amongst these, the most serious and pressing is the foreign indebtedness of the provinces, whose obligations on interest and sinking funds are beginning to give rise to well-founded anxiety. Although, strictly speaking, the national executive can not be taxed with any kind of responsibility for loans of a purely local character, it is politic, for the sake of Argentine credit, which has been steadily upheld always, that the National Government take over the responsibility of these local obligations rather than allow a pretext for unjustifiable outcry and complaints, though they have no legal rights to rest on.

Once again, we shall give to the world this solemn proof of our good faith, even in favor of creditors whose conduct in this regard is not above reproach and who have no plausible right to appeal to the nation to cover acts and protect claims, the responsibility of which lies in the individual profitable operations in such financial adventures. Yet, we must emerge from this situation, and the national executive applies to Congress for authority to negotiate the matter with the local governments and loan-mongers of this category, and apply the national resources, and undertake the responsibilities arising therefrom.

As the honorable gentlemen will see at a glance, the eventualities before us are of too serious a nature not to call for a corrective to avoid any recurrence of a state of affairs that may be well qualified as an utter disaster to our progress—a state of affairs that has compromised our future and the prosperity of the country.

I, therefore, hope that Congress in this instance will sanction a radical measure, such as I propose, putting an end once and for ever to the power of the provinces to contract foreign loans; and, in case of infringment, let it be notorious that all such compacts and obligations, whether contracted at home or abroad, shall be of purely local character; let it be known from this date that in no case shall any claim be allowed on the nation, no responsibility be attached to the Government of the nation.

It will be observed that the law leaves it optional with the provinces whether, in consideration of turning all their assets over to the General Government, they will avail themselves of its offer to assume their bonded indebtedness. The question of autonomy steps in, and some of the provinces are already showing a disposition to question the motives of the national authorities in thus depriving them of their inherent sovereignty or power to govern themselves as they please, subject only to the constitution. In this view, and to avoid complications, Dr. Lopez, minister of finance, now expresses the opinion that it is preferable to let the provinces default, if they can not meet their obligations, and then make the best terms they can with those who hold their bonds. And this will probably be the result.

AMOUNT OF CÉDULAS IN CIRCULATION.

Another burden looming up most ominously is the service of the interest on the millions of cédulas now in circulation, for the payment of which the nation and the province of Buenos Ayres are respectively pledged. A year ago the outstanding amount of these cédulas had reached to $464,000,000, of which $300,000,000 in paper were the issue of the Buenos Ayres Hypothecary Bank and $164,000,000 in gold were the issue of the National Hypothecary Bank. Since then the former has issued $30,000,000 more, and the National Hypothecary Bank has now just emitted $40,000,000 more. So that the total amount for which the interest has to be provided may be roughly stated to be $530,000,000, an amount which, in view of the present strained condition of both national and provincial affairs, certainly seems large enough to appal the most hopeful financier. It will be borne in mind, however, that, while the respective hypothecary banks must meet the interest accruing on these cédulas, they are re-imbursed for the same by the 8 per cent. interest they receive from those whose property has thus been mortgaged at 50 per cent. of its valuation. So long as these parties keep their interest up, there can be no difficulty in meeting the interest on the cédulas. Until recently the banks have pretty punctually received their interest and have thus been at all times ready to meet the service of the cédulas in circulation. It is known, however, that many persons with heavy mortgages outstanding have been caught in the crash and are no longer in a condition to pay the accruing interest. As the financial situation becomes more and more pronounced, the number of these delinquents must become larger and larger. Of course, the mortgage banks have the alternative of selling at public auction the property mortgaged; but it is notorious that in most cases these mortgages were made when the price of lands was three or four times higher than it is to-day, and, if it should be put up at forced sale, it would scarcely fetch a tithe of the amount for which it was mortgaged, thus leaving the banks, or the Government rather, to make good the difference. Thus far the banks have delayed action in a large number of defaults, in the hope of arranging with the mortgageors; but this grace can not be much longer continued. What will be the end of these complications can not now be forseen; but if, owing to the depression of values which are now taking place in landed property, there should be a general default, the National Government and the provincial government of Buenos Ayres, which respectively stand ultimately responsible for these cédulas, will be left with very heavy loads to carry.

BANK-NOTE CIRCULATION.

And what shall be said of the irredeemable paper currency in circulation, and for the ultimate security of which national bonds are held by the Government? The actual amounts which the guarantied banks have issued no one seems to know, for those institutions, although Government inspectors were placed over them, seem to have been a law unto themselves. A distinctive provision of the national banking law was that all existing banks reorganizing under it, upon receiving the new guarantied notes, should withdraw from circulation and have canceled all their old notes as fast as they were returned to them. But just previous to the resignation of the late President Celman it was discovered that these "free and easy" banks had not only issued the new notes to the full quota to which they were entitled, but that, in defiance of law and by collusion of the national authorities, had actually put in circulation again nearly all the old notes which it was supposed had been canceled. Such a *coup* struck the country aghast and quite shattered what little confidence the public yet had in the national currency;

but to this day a portion of these fraudulent old notes are still kept in circulation and generally received by the people. The accountant-general of the National Government has just published a statement of the amount of bank-notes in circulation under the banking law, of which the following is a summary:

Notes received from printers in Europe		$262,207,000
Less:		
Amount burned	$2,200,000	
Still on hand	47,105,465	
		49,305,465
Total national notes in circulation		212,901,535

The report goes on to state the distribution as follows:

Bank.	Amount.	Bank.	Amount.
Banco Aleman Trasatlantico	$1,080,000	Provincial banks—Continued.	
Banco Buenos Ayres	1,500,000	Rioja	$3,000,000
Banco Italia y Rio de la Plata	1,500,000	Catamarca	2,300,491
Banco Ingles de Rio Janeiro	250,000	San Juan	1,656,000
Banco Frances del Rio de la Plata	500,000	Corrientes	1,568,500
Banco Nacional	55,250,325	Mendoza	1,240,000
Provincial banks:		San Luis	222,100
Buenos Ayres	58,350,100		
Cordoba	15,113,796	Total	198,898,682
Santa Fé	15,091,000	Deficiency in the treasury	2,853
Entre Rios	6,999,500	Special emission, according to the law of the 6th of September, handed over to the National Bank	
Salta	4,432,000		35,000,000
Tucuman	4,000,000		
Santiago del Eserto	3,766,470	Grand total	212,901,535

How much in addition to this has been surreptitiously put in circulation by collusion between ex-President Celman and the banks does not fully appear. At one time it amounted to about $60,000,000, though some of this has since been burned. The accountant-general says it now amounts to $35,116,000. At all events, the present irredeemable bank-note circulation in the country can not be less than $250,000,000.

The National Government, since President Peligrini came into office, has intervened in the examination of a number of the provincial banks, and the disclosures, so far as they have been permitted to see the light, are most scandalous. In some cases the capital has been distributed among a half-dozen or so of favored politicians; in other cases discounts for millions had been made to men of straw, whose names even did not identify them. In another case one man alone figured on the books as having obtained accommodation for upwards of $6,000,000, and all there was to show for it was his overdue paper. What will be the result of these disclosures yet remains to be seen, but it is understood that the new Government intends to deal with the delinquents to the full extent of the law. Dr. Lopez, the present minister of finance, is a statesman of great strength of character, sterling integrity, and distinguished ability.

THE DRAIN OF GOLD.

With all these complications and embarrassments from excessive overtrading, from insufficient means to meet the service of the national and provincial foreign debts, from the reckless issue of cédulas, from the millions of irredeemable depreciated paper in circulation, from other millions of fraudulent currency with which the country is flooded, and with the limited resources left behind by the late President Celman wherewith to devise ways and means to help the country out of its troubles and restore its credit abroad, it will be easily seen that the portfolio of the finance minister is just now neither a sinecure nor a bed of roses. From all these points of view the situation is a most serious one; and, to add to the difficulty, all the while that the Government is trying to secure a reserve of the precious metals there continues to go on a steady drain of gold from the country. It refuses to be retained. It goes to pay debts; it goes to pay interest; and, especially, it goes to pay the dividends of the foreign capital invested in the Argentine Republic. President Peligrini, in a recent published statement, figured that the amount of gold which it was necessary to send out of the country every year to meet the service of the foreign capital invested here was as follows :

Interest on loans (national, provincial, and municipal) and government guaranties.	$23,750,000
Service of cédulas held abroad	15,000,000
Dividends of railways, banks, tram-ways, etc	25,000,000
Interest on foreign money employed in commercial operations and remittances of foreign residents	12,000,000
Amount of imports over exports, etc	80,000,000
Total	155,750,000

Is there any wonder, with such a drain of money out of the country, that gold is scarce and dear? Heretofore these requirements were met by means of loans and cédulas; but there has come an end to borrowing money, and Argentine cédulas have of late become a drug in foreign markets. The premium on gold, which this time last year was quoted on the Bolsa at 130 per cent., gradually hardened during the first months of the present year, and at the time that ex-President Celman retired from office it had touched 206 per cent. Immediately after President Peligrini became the head of the Government it went down to 140 per cent., but since the disclosures showing the wrecked condition of the finances inherited from his predecessor the premium has again shown an upward tendency, and while I write the price is quoted at 190 per cent. With this high premium on gold, of course, debtors are quite precluded from paying their debts abroad. They have, indeed, quite given up trying to and are tacitly waiting for the crisis to spend its fury.

And is there no remedy for this unfortunate state of affairs—no panacea, no medicine to restore health to the financial sickness of the country? President Peligrini, in a recent published interview, frankly says that "the crisis is more serious and alarming than is generally supposed, and it can not be cured by palliatives, external or internal." This is, I think, the general opinion of those who have studied the situation. The disease is radical and must run its course. The crisis must exhaust itself. The liquidation, which has commenced, must go on to the end before there can be any improvement. There must be a stringent contraction of the currency. The present irredeemable paper of banks that are actually insolvent, and now worth but little more than 30 cents to the dollar, must somehow be retired from circulation and something must take its place that shall be equal to, and convertible into, gold. The business of the country, which for the last few years has been done on an ascending scale of inflation and fictitious values, must come down again to a specie basis. All this will require sacrifices to be made. It will involve individual losses, perhaps even bankruptcy to not a few; but, until the patient is worse, he will not begin to get better. Many supposed, so soon as Juarez Celman was out of the way and new and trusted men were in power, that the troubles of the country would be over; but the troubles were found to be too deep-seated for that. The best men in the world can not perform miracles. You can not build or rebuild without materials; you can not restore what reckless officials have squandered without adequate means. President Peligrini, upon coming into office bearing the best wishes of the people, and with the best wishes of the country in his heart, at once saw the desperation of the situation—mountains of obligations maturing and scarcely a dollar in the national treasury to meet them. Even the Government reserves had disappeared from their strong boxes. He hoped and wished for contraction, but the emergency was such that it was necessary to ask Congress for an additional issue of $60,000,000 currency and power to emit $40,000,000 more of cédulas as the only possible alternative for obtaining provisional means to carry on the Government.

The year closes with most ominous misgivings for what of misfortune and sacrifice is yet in store for the nation, for what of distress and misery may be in store for the people.

VIEWS OF PRESIDENT PELIGRINI.

No more discouraging view of the situation, however, could be taken than that which President Peligrini has himself given utterance to. Indeed, coming from so high and authoritative a source, his words carry a weight and have a significance beyond any thing which I myself would venture to say; and, as showing the true inwardness of the country's troubles, I can not do better than give his opinions in his own language. In an interview with the editor of the Nacion, just published, he says:

THE CRISIS.

Editor.—In view of the fact that the crisis is getting worse, as revealed by the rise in the gold premium and stagnation in business, has Your Excellency any objection to tell me frankly what you think of it?

President.—I have a full sense of the duties imposed on me by the financial and economic condition of the country. I believe a ruler should always speak frankly to the people, and I will do so now, though what I have to say is not pleasant.

The finance minister said something of the situation in the Nacion, but he did not speak out, being afraid to create alarm; but I consider that, to remedy the evil, its full extent must first be made known. The crisis gets worse and more alarming daily. The situation is most complicated; but few wish to recognize the fact. If we do not all unite to avert the danger, ruin and dishonor will be our lot. The country owes a great deal of money abroad and must pay it. The crisis is worse than I thought, and palliatives are of no use. I will devote all my strength and faculties to the task of reconstruction, but politics are so mixed with finances in this crisis, with the threatened danger of a social crisis, also, that the task is of enormous difficulty; but I am determined to face it. The country owes a great deal at home, as well as abroad; so it has to encounter two liquidations, both most difficult.

INDUSTRIAL STAGNATION.

Industry, commerce, all social classes, production, and consumption are all affected. With gold at 300 wealth melts away, scarcity ensues, then ruin, want, and famine. Life is impossible with gold at such a premium; government can not be carried on; the people, rendered desperate, may rise to secure food, and no power can resist or restrain them. The worst danger ahead is social revolution.

Editor.—And can Your Excellency see no remedy at home or abroad?

President.—The want of unity in our commercial and banking organization precludes a heroic remedy, as mere honest financial administration can not be called such. Private thrift and saving might do something, but could never cure the evil radically.

Even a foreign loan would be purely a temporary expedient; besides, it can not be raised at present, owing to the crisis in the London market; but it won't last long, as they all unite there in such emergencies, but here we do not. Once the English market recovers, the loan and the conversion of cédulas will both be effected. Meanwhile the crisis grows. Personal credit is the base of all our industries; but it is now destroyed, and anæmia has seized the commercial organism. Factories are already being closed, the workmen are without work and without food, and herein lies a great political and social danger. * * *

THE POLITICAL QUESTION.

Editor.—Don't you think that politics are mainly answerable for the present state of things?

President.—Most assuredly. It is not my business, but I say this much: The future President and Vice-President should be eminent national personages, as they have a tough job before them to set the country right. The candidate must be a representative man in every sense, and he should be selected without loss of time. The crisis abyss may open under us at any moment, if all do not join to settle this Presidential question; but your Union Civico must join, instead of fomenting political agitation. If the crisis gets worse and we can not find help abroad and your Civicos refuse to join in settling the matter, I will resign before a month is out and hand over the Government to Doctor Derqui, first vice-president of the Senate.

We must all unite to save our country, which was just beginning to assume the position of a great nation. Let us all fling our private ambition to the winds and unite to make her happy and prosperous once more. We are in great danger of disappearing as a civilized nation and falling back to be merely "South America." If we do not first settle the Presidential question, and that soon, we shall be done for and forfeit all respect and consideration. I trust this terrible case will not arise, and that the Presidential question will be settled promptly and to the satisfaction of all parties. * * *

Though certainly this is a most pessimistic view of the country's troubles, it can hardly be said that President Peligrini is not fully informed in regard to the financial and political perils which are threatening the nation.

FAILURE OF BARING BROS. & CO.

And now, just as I am closing my report, a cablegram is flashed across the ocean announcing the suspension of the great banking house of Baring Bros. & Co., of London, which for many years has in great part carried the credit and floated the loans, national and provincial, of the Argentine Republic, and through which nearly all the commercial business of this country with Europe and the United States has been wont to be transacted. The extent or scope of the disaster is not yet fully known; but, from the fact that the house was loaded with bonded indebtedness on which it has not been able to realize and was party to contracts which were ruinous, it is generally believed that, with all the outside assistance it may be able to command, its losses will be enormous, and that it will have to go into liquidation. If so, grievous as is the remedy, it may signify the beginning of the end, and that the general liquidation, which I have just said must come sooner or later before matters can begin to improve, has already commenced. If so, the giving way of Baring Bros. & Co. may ease up the strain on the country and lead the nation gradually down from the inflated palace in which it has been holding high carnival to the safer level of business on a gold basis.

THE OUTLOOK.

Having for the last sixteen years watched the material development of the Argentine Republic and marked its progress to the first rank of South American republics, it has not been a grateful task for me thus to dwell on the misfortunes in business and finance which have overtaken the country and interrupted its prospects. But in so young and vigorous a nation, possessing so many natural elements of wealth, the clouds which now darken the picture must, when their fury be spent, give place once more to brighter days. The future is yet full of hope and of ultimate triumph. Of necessity there must for a while be depression and humiliation; there must be opportunity for reaction and recovery; there must be time for the material forces of the country to work, and time for the strictest economy in the Government and among the people to be practiced and felt. If bad methods have brought on the present financial embarrassments, the bitter experience will suggest better methods for the future. But, with statesman-like patience and hard work and a surrender of all that is fictitious and false, the Argentine Republic will yet grandly come out of all her troubles and take up again the march of progress, which, by an entire disregard of the inexorable laws of political economy, is now for a time so unfortunately interrupted.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, November 17, 1890.

CHANGES IN THE URUGUAYAN TARIFF.

REPORT BY CONSUL HILL, OF MONTEVIDEO.

The following is a translation of the law respecting customs duties, sanctioned by the Chambers in the secret sessions held last week, and of the decree regulating the same issued by the ministry of finance:

The Senate and Chamber of Deputies, etc., decree:

ARTICLE 1. From the promulgation of the present law all goods imported from abroad for consumption shall pay an additional duty of 5 per cent. upon their valuation according to the existing tariff, except the goods at present free of duty and those specified in paragraphs 5, 6, and 7 of article 1 of the customs law of January 5, 1888.

ART. 2. From the same date those products of the country specified below shall pay upon their exportation the following specific duties, namely:

Articles.	Duty.	Articles.	Duty.
Wool in general......................per 100 kilos...	$1.30	Salted ox hides..............................each...	$0.25
Sheep-skins......................................do......	80	Dried ox-hides...............................do......	12
Hair..do......	1.70	Salted horse-hides.........................do......	12
Grease, tallow, and animal oils............do......	50	Dried horse-hides...........................do......	06
Jerked beef.......................................do......	40	Dried calf and nonato skins...per 100 kilos...	1.00
Preserved meat and tongues..............do......	1.00	Seal skins..each...	16
Hoofs..do......	25	Horns.......................................per M...	$.50
Ashes and bones.................per 1,000 kilos...	60	Meat extract...............................per kilo...	10
Animal manure.................................do......	60		

MINISTRY OF FINANCE.

The executive power, regulating the customs law of this date, resolves and decrees:

ARTICLE 1. The direction-general of customs shall liquidate and carry out the account, separately, of the duty of 5 per cent. additional on importation created by the said law.

ART. 2. The permits to dispatch already passed shall be liquidated without the additional duty of 5 per cent.

Those permits now in process, but which have not been passed in the deposit, shall be null.

The permits of disembarkation to dispatch or of direct dispatch which are in process, but have not been passed by the *resguardo*, shall be null.

Those which have been entirely or partially passed by the *resguardo* shall be liquidated without the additional 5 per cent. so far as they are already fulfilled, but new permits must be taken out for the remainder, subject to the aforesaid additional 5 per cent.

ART. 3. The permits for exportation of products of the country, the embarkation of which has been passed by the *resguardo*, shall be exempt from the respective duty created by the law now regulated.

Those of which the embarkation has not been effected shall be null.

Those which have been effected in part shall not pay the additional duties on the part already embarked, but new permits must be obtained for the remainder, subject to duty.

ART. 4. The regulations and other dispositions relative to exportation of products of the country, in force before the promulgation of the law of January 30, 1888, and which have not been expressly derogated, remain in full force and vigor.

FRANK D. HILL,
Consul.

UNITED STATES CONSULATE,
Montevideo, October 10, 1890.

THE MOVEMENTS OF POPULATION TO CITIES.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

A review of some preliminary statistical tables of the census taken in this Kingdom on the 1st of February last gives an insight into the proportional distribution of the population between the town and rural districts.

The yearly average of the growth of the population is there shown to have been during the decade of 1880–'90, as follows:

	Per cent.
Copenhagen	2.89
Townships:	
Of Jutland	2.60
Of the islands	1.89
Rural districts:	
Of Jutland	0.45
Of the islands	0.31
For the Kingdom at large	0.99

This average growth is, first of all, of special interest when brought into comparison with the average percentages of previous periods. Dividing the last fifty years into three periods—say the twenty years from 1840 to 1860 and from 1860 to 1880, together with the decade of 1880–'90—it is seen that both in the capital and in the different townships the increase of the population has steadily been of more and more pronounced character, whilst the percentage of growth in the rural districts has constantly been on the decline.

The following table more fully expresses this proportional increase in the towns and decrease in the rural districts of the population, viz:

Period.	Town.	Country.
	Per cent.	*Per cent.*
1840	20.3	79.7
1860	22.4	77.6
1880	26.2	73.8
1890	30.5	69.5

The population of the Kingdom is now found to be distributed in the following manner, viz: In the towns, 738,000, and 1,435,000 in the rural districts; in other words, of the aggregate population of Denmark in 1890, 34 per cent. are found dwelling in the towns and 66 per cent. in the rural districts, whereas fifty years ago the town population was only one-fifth of the aggregate population of the Kingdom, whilst at the present time it is over one-third.

In the last ten years 137,000 inhabitants have taken their departure from the rural districts, 64,000 of whom have been received by the towns, the remaining 73,000 having emigrated to foreign lands; and of these 137,000, the rural districts in the islands have contributed 55,000 and the Jutland rural districts 82,000, which is a relatively larger share for Jutland, as the rural population in that part of the Kingdom in 1890 was only slightly in excess of that in the islands. It is only in the northern and western districts of Jutland that the rural population has met with any noteworthy increase in the last decade.

It will not be necessary to give further figures; the foregoing afford a good illustration of the complaints, so often made by the farming classes, of the great difficulty in these days of procuring the required number of laboring hands, and in this country, as well as in other European lands, one looks with deep concern at this gradual dispeopling of the country, whilst the towns are increasing their population beyond all limits. This excessive shifting of the population which has been going on for the last fifty years is also a matter of no little anxiety to radical reformers, as well as conservative statesmen, in all countries. This problem is in no wise confined to this Kingdom; it is more or less prevailing in all the old countries. In France, where the general population has for some years been nearly stationary, the towns have been largely increasing their numbers at the expense of the country. In Germany, during the five years 1880–'85, the rural population has been decreased by 150,000, whilst the towns have met with an increase of 1,500,000 inhabitants. In towns of over 2,000 inhabitants, according to the last census returns, in the Netherlands there were dwelling 80 per cent. of the population; in Belgium, 64 per cent.; in Great Britain and Ireland, 45 per cent.; in Spain and Italy, 43 per cent.; in Germany, 40 per cent.; and in France, 30 per cent. A transition from country to town life, as substantiated by these figures, must naturally affect the social physiognomy of a nation. It is a transition from regular and healthy labor, under tranquil conditions, to the specialties of factory life, with its crises, strikes, etc., and the attendant restlessness of town life. The hands who direct their steps toward the towns are also, for the most part, individuals in the most robust and energetic stage of life, it being found that the class from twenty to forty years of age is much more numerous in the towns than in the rural districts, where, on the other hand, the predominating classes are those of the earliest and latest stages of life.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, November 19, 1890.

IRON AND HARDWARE INDUSTRY OF AUSTRALIA.

REPORT BY CONSUL GRIFFIN, OF SYDNEY.

Little or nothing has been done towards utilizing the rich deposits of iron ores so widely diffused throughout New South Wales, with the exception of the works of the Eskbank Iron Company, at Lithgow Valley, 96 miles west from Sydney. These works were originated in 1875, and the company have on their property iron ore, coal, fire-clay, and molders' sand. There is no other establishment now engaged in the manufacture of iron from the ores, and even at Eskbank the operations are very small, and do not exceed in value $97,330 per annum, and are confined principally to rerolling old rails and working up scrap and other old iron into bars, rods, nails, etc. The iron-works established at Mittagong, 77 miles to the south of Sydney, at a heavy outlay of capital, and which at one time promised profitable returns, have not been in work for some time. There are, of course, a large number of iron-foundries in the colony engaged in the manufacture of steam-engines, boilers, railway plant, agricultural machinery, farming implements, etc., but the material used is imported. During the year 1889 there were 350 establishments engaged in various kinds of iron-work in New South Wales, giving employment to between 8,000 and 9,000 hands, with a larger number of establishments and hands in the colony of Victoria, where more attention is paid to manufactures of all kinds than in New South Wales.

The total value of iron and iron manufactures imported into the whole of Australia is nearly $30,172,300 per annum. Nearly all these imports are admitted free into New South Wales. The exceptions were for the year 1889:

Articles.	Rate of duty per ton.	Quantity on which duty was paid.
		Tons.
Galvanized iron in bars, sheets, corrugated	$9.73	15,131
Iron and steel wire	4.86	11,[illegible]
Galvanized iron manufactures (except anchors)	14.60	....

However, in Victoria the customs duties on these imports are very heavy. In that colony iron manufactures pay a duty of 35 per cent. ad valorem. Bar and rod iron are admitted free, but almost every thing else in the way of iron and iron manufactures is taxed. Victoria has also taken steps to prevent the export of her scrap-iron by putting a tax of $7.30 per ton on all scrap and old iron exported.

I am indebted to Mr. T. A. Coghlan, Government statistician of New South Wales, for the following table showing the value of iron manufactures imported into Australasia for each year from 1884 to 1888, inclusive:

Colony.	1884.	1885.	1886.	1887.	1888.
New South Wales	$9,455,157	$10,871,250	$7,121,374	$5,643,612	$9,032,628
Victoria	5,420,648	5,534,505	5,586,076	6,690,751	9,260,187
Queensland	3,649,438	3,240,725	3,140,725	2,853,730	4,471,481
South Australia	1,787,583	1,841,883	1,497,825	1,682,384	2,314,785
Tasmania	1,179,019	936,767	1,194,803	942,145	989,496
New Zealand	4,818,614	3,678,929	2,993,464	3,125,388	3,152,714

IRON ORES.

New South Wales, with the exception of New Zealand, is the only colony in the Australasian group that possesses extensive iron deposits. These deposits are found at Wallerawang, Lithgow, Mittagong, Mount Lambie, Berrima, Illawarra, and in various other parts of the colony. Both coal and lime are found in most places near at hand. At Wallerawang there are immense masses and veins of magnetite, with garnet iron-stones. There are also rich veins of red and brown hematite. Professor Liveridge, of the Sydney University, who recently made analyses of the iron ores of New South Wales, states that the magnetite ores average 40.87 per cent. of metallic iron, the garnet iron-stones 21 per cent., the brown hematites from 37.84 to 51.82 per cent., and the clay bands 49.28 to 56 per cent. of iron. Vast deposits of brown hematite exist near the junction of the Hawkesbury and Wianamatta formations. Large deposits of magnetite are found on the Bogan and Lachlan rivers. It is sometimes stated by promoters of iron companies that the ores on certain properties contain as much as 90 per cent. of the metal; but it is rarely that large masses of ore are found so pure, and it is more than probable that the ore thus advertised does not contain more than 40 per cent. of the metal. On the Southern Railway line there are extensive deposits of brown hematite, with coal-measures near to them. This, of course, adds to their value, as it is a matter of great importance to have the two together for smelting purposes, for, if either the coal or iron has to be carried any distance, the cost of freight and cartage, which is very high in Australia, would render it impossible to manufacture iron at remunerative rates. Brown hematite ore is also found in the rich coal-fields of Bulli and other parts of the Illawarra district. The ore at Bulli, as well as at Eskbank and Lithgow, is very rich and averages over 50 per cent. of iron. Bog iron ore exists in considerable quantities at Mittagong. It is usually of a porous, ochery nature.

The following analysis of ore from that part has been made by Mr. C. Watt, late Government analyst:

	Per cent.
Hydroscopic moisture	0.35
Chemically combined water	2.12
Peroxide of iron	85.91
Protoxide of iron	5.59
Silica	3.80
Alumina	2.18
Total	*99.95

This is equal to 47.86 per cent. in metallic iron.

Red and yellow ochers are closely allied to this ore and are usually associated with it, but they contain more or less earthy matter. Mittagong is situated in one of the richest mineral and agricultural districts in New South Wales. It lies at an altitude of 2,069 feet above the sea. The district

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* Also traces of protoxide of manganese, lime, phosphoric oxide (P_2O_5), and sulphuric oxide (SO_3).

throughout abounds in deposits of iron, coal, shale, manganese, lime, and fire-clay. The shale near Mittagong contains a higher percentage of kerosene than any other hitherto found. About 15 miles from the town are situated the Australian Kerosene and Mineral Company's works. The company occupies 2,000 acres of land, upon which there is a proved seam estimated to contain 200,000,000 tons of kerosene shale, besides an unlimited quantity of coal and other minerals.

Iron ore exists at Berrima, in the same county as Mittagong, and it is said to be even richer than that found at Mittagong.

The following is an analysis of brown hematite found at Berrima:

	Per cent.
Hydroscopic moisture	15.47
Iron peroxide	82.54
Alumina	0.84
Phosphoric oxide	0.63
Insoluble in acids	0.52

This is equal to 57.8 per cent. in metallic iron.

The Government, on account of the favorable reports of the iron seams at Mittagong and other parts of Camden County, have taken steps to ascertain the number of iron deposits and to define their position, extent, and contents, and full particulars as to their ownership. Various specimens of iron from this county were analyzed by the Government analyst during the year 1889, and they yielded from 40 to 62 per cent. of iron.

Iron ore is found near Bathurst, one of the most important of the inland cities of New South Wales.

The following is an analysis of a specimen of magnetite from Brown Creek, Bathurst:

	Per cent.
Water lost at 100° C. and water combined	0.13
Iron:	
Peroxide	60.48
Protoxide	18.67
Alumina	14.22
Silica	6.50
Total	*100.00

This is equal to 56.85 per cent. in metallic iron.

Red hematite (specular iron) is also found in abundance in various parts of the colony, particularly in the so-called "red hills," occurring in the New England tin districts. It is also found near Sydney and in the Illawarra district. A specimen of this ore gave 90.55 per cent. of iron sesquioxide, its specific gravity being 4.49. Continuous seams of magnetite from 30 to 40 feet in thickness have been opened up in the Illawarra district, near the railroad, with an abundant supply of coal, lime, and clay bands.

Iron pyrites also exists in many parts of the colony. It is found in well-formed crystals in the Manilla and Namoi rivers, County Darling. Inter-

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* There were traces of phosphoric oxide.

esting concretions occur in the Sunny Corner silver fields, on Mitchel's Creek, in which the vein stuff is black, green, brown, and red. Some of these veins are from 40 to 50 feet in width. Professor Liveridge states that in some respects these concretions of iron pyrites resemble the calcareous concretions of the London clay known as septaria and used in the manufacture of hydraulic cement. Well-formed cubes, partially decomposed in brown hematite, are common in many deposits with gold, and are known to the miners by the name of the "devil's dice." All the specimens of iron pyrites which Professor Liveridge examined contained traces of gold, and in some instances gold was found in considerable quantities. Fluted rhombic crystals occur with arsenical and common pyrites (auriferous) on the Sholehaven River.

There are various other kinds of iron of more or less commercial value found throughout the colony. Chrome iron exists in abundance at Tamworth and on the Gwydir River and its tributaries; also at Gordon Brook, Armidale, etc. At Tamworth there is a vein of chrome iron 40 feet thick, specimens of which showed, upon analysis, 64.72 per cent. of chromium sesquioxide and 21.11 per cent. of iron protoxide. Professor Liveridge states that this vein could be easily and profitably worked. The chief obstacle, however, to the working of chromium or, indeed, of any other kind of iron in the colony, is the high cost of labor.

Rich seams of magnetic iron ore are found at the iron-stone mountain, Port Stephens, where there is a magnificent harbor, 80 miles northeast of Sydney. Mr. T. W. E. David, Government geological surveyor of New South Wales, has recently made an interesting and valuable report on the Port Stephens iron-stone mountain. He states that the prospecting board have made a number of openings for the purpose of following the ore bed in straight to the dip. The extent of the dip has not yet been defined. The samples obtained from it show a large percentage of metal. These, however, were obtained from the outcrop, which are usually somewhat richer in iron than those taken from a depth, owing to the iron in the surface ore having become concentrated through the action of the weather, which leads to a constant dissolving and reprecipitation of iron near the surface. In this process the impurities of the ore (sand, clay, etc.) follow it a short distance down toward the dip, and, consequently, enrich it. The report says:

> There is a fall of between 300 and 400 feet from the various outcrops of the iron stone bed here to sea-level. The greater part of the country intervening between the iron-stone mountain and the Karua wharf is either flat or undulating, becoming rocky and broken until in the immediate vicinity of the iron-stone. There is abundance of good timber in the locality, so that there would be little difficulty in constructing a tram line or railway line from the mountain to the Karua River. The formation in which the iron-stone occurs is the "rhacopteris beds," which are probably of lower carboniferous age, and are certainly older and underlie the Greta coal-measures, and have never yet themselves been proved to contain productive coal seams. The outcrop of the bed was traced by me for over a quarter of a mile, being bounded on the north by an intrusive felstone, while to the south it apparently thins out. It is more than probable that the prospecting trenches will prove it to extend still further in this direction. It is also nearly certain that its continuation still further north will be discovered on the north

side of the dike of felstone, as the same bed of iron ore is known to occur at Bowral and to the west and east of Stroud, the bed dipping under Stroud from the west, then rising again to the surface to the east of Stroud, so that it lies in a complete trough or basin. A partial section of the bed, in two places where it is obtainable in trenches already cut, shows that its thickness varies from 3 to 4 feet. The dip is southwesterly at from 20° to 30°. Assuming that the bed maintains an average thickness of 3 feet for a distance of, say, a quarter of a mile in the dip, and that the average yield of ore is, say, one-quarter less than it is at the surface, the total quantity of metallic iron here would be, roughly, 800,000 tons, equal to 5,000 tons per acre. This estimate is, of course, only very approximate, and is subject to correction when a truer estimate can be formed upon the completion of the present prospecting operations. At the iron-stone mountain the ore bed dips towards the west, but at a short distance to the west the dip changes presistently to the east, so that the iron ore should rise to the surface again in this direction, and it would be advisable to prospect here for its western outcrop.

The report further states:

> The iron-stone mountain is interbedded with thick masses of volcanic sandstone (arkose), composed of tufaceous material ejected during volcanic eruptions, intermixed with sand. The ore bed has evidently been formed by the mechanical concentration of the minute crystals of magnetic iron contained in the tufaceous sandstone by the agency of sea-water acting on a beach, which has thus produced a beach wash of magnetic iron-sand of lower carboniferous age, similar to that which is at present being formed at Taranaki, in New Zealand. That this is the true origin of this bed of iron ore is also proved by the presence of titanic acid, the analysis showing that there is as much as 7.30 per cent. of titanic acid present, which is equal to from 16 to 17 per cent. of titaniferous iron. The analysis by Mr. J. C. H. Mingaye, F. C. S., shows that there is 18.70 per cent. of silica and 5.28 per cent. of alumina present. The presence of so much silica would certainly make the ore a refractory one to smelt, and its treatment would be rendered still more difficult by the presence of so much titaniferous iron. There is, however, a considerable quantity of earthy limestone and a small bed of pure limestone close to the deposit of magnetic iron-stone, and this would serve as a flux should it be decided to attempt to smelt the iron-stone on the ground. The value of this deposit will depend on (1) its yield of metallic iron at a depth (this will be proved by the analysis hereafter to be made of the ore at a depth as exposed in the ends of the cuttings, for which aid has been granted out of the prospecting vote); (2) its average thickness, as will be proved by the trenches, for which similar aid has been given; (3) on the possibility of smelting successfully an ore which contains so much silica and titanic acid, so as to produce from it a marketable quality of iron.

The richness of the New South Wales iron ores has been for a long time well known and acknowledged by experts; but the high cost of labor, as previously mentioned, is a serious obstacle in the way of working the deposits economically, and then, in addition, there is the heavy expense connected with the erection of smelting works. Moreover, the value of iron, on account of its bulk, is small when compared with that of other metals; but, notwithstanding these obstacles, several syndicates have been formed here and in England for the purpose of working the ores. Mr. J. Mitchell, member of the New South Wales Parliament, who visited England at the beginning of the present year, has just succeeded in forming a syndicate in London for the purpose of working the ores at Wallerawang and Wollongong. Mr. Mitchell states that much of the ore at those places is richer than that imported into England from Spain. When iron-works were first started in New South Wales, the cost of coal at the mines was $15 per ton. It can be obtained at

97 cents per ton now. Mr. Mitchell says that no aid will be required from the Government either by bonuses, import duties, or privileges of any kind whatever, and that the usual colonial rate of wages will be paid to the miners.

Mr. Mitchell, while in Europe, secured the services of a Scotch iron expert for the purpose of reporting upon the iron-making capabilities of New South Wales. This expert, after visiting all the principal places where iron is found, reported very favorably in regard to them. He said that he was fully satisfied that iron could be manufactured at a profit without reducing wages or interfering with the eight-hour system. He does not, however, advise the investment of capital in the industry until a better understanding can be arrived at between capital and labor than at present exists in Australia. There are, however, many here who contend that, leaving the labor question out altogether, it will be impossible to manufacture iron and steel without the assistance of an import tax, which, it is said, should not be less than $9.73 per ton. Through the help of the duty on wire-netting ($7.30 a ton) the colony is enabled to manufacture no inconsiderable portion of the wire used here for fencing. It is also claimed that, if this duty were removed, the price of netting would be at least 25 to 30 per cent. higher than it is. The fact is often cited that, when bar-iron is worth only $38.88 per ton in London, it can not be purchased in Sydney for less than $63. It is contended that the freight charges are light, and that there is no just reason why the article should command such a high price in a free port. Plates are quoted in London at $38.88 per ton; the quotation here is from $65.44 to $68, and it is said that these prices would not be exceeded if the articles were made here. It is also said that an enormous iron and steel industry has sprung up in the United States that has no parallel in the world, chiefly through the exaction of import duties, which have so cheapened the product that the country is not only able to supply her own wants, but those of her neighbors.

IRON IMPORTS.

The great bulk of iron imports comes from Great Britain, the United States only furnishing a very small quantity. The value of the total imports of iron and steel, exclusive of machinery, hardware, etc., into New South Wales during the year 1889 was $2,138,278. The subjoined table shows the value of the imports of iron and steel and of galvanized iron and galvanized manufactures into New South Wales for each year from 1885 to 1889, inclusive:

Year.	Iron and steel.	Galvanized iron and manufactures.
1885	$3,300,405	$2,033,025
1886	2,310,695	1,425,485
1887	1,497,875	1,371,125
1888	2,010,555	2,448,835
1889	2,138,278	1,517,240

Of the imports for 1889, $147,270 consisted of pig-iron, $596,555 of iron and steel pipes, $65,975 of other castings; $706,485 of bar, rod, plate, and sheet iron; $102,630 of bolts, nuts, rivets, and screws; $401,345 of other wrought, $67,945 of iron and steel tanks, $70,220 of safes and doors, $512,785 of wire, $363,930 of galvanized manufactures, and $15,735 of wire-netting.

HARDWARE.

The value of hardware imported into New South Wales during 1889 was $2,382,205, against $2,142,290 for the year 1888. Of the imports for 1889, Great Britain shipped direct to the value of $1,582,005, besides a considerable quantity by way of Victoria and the other colonies; the United States furnished direct $396,980. The value of the imports of nails during the same period was $141,940; of these, Great Britain supplied direct $75,215 and the United States only $10,865. The value of the imports of machinery was $2,313,835, of which Great Britain sent direct $1,277,365 and the United States $265,700. The value of agricultural machinery and implements imported was $333,845, of which $97,445 came direct from Great Britain and $28,515 from the United States. The value of fire-arms and ammunition was $775,920; of these, $167,615 consisted of guns, of which Great Britain sent $100,095 and the United States $34,605. The value of the shot imported was $55,270, nearly all of which came from Great Britain. A small quantity of shot is made in Victoria, where there is a shot-tower 150 feet high. It was formerly only 80 feet high, but that height was insufficient for the manufacture of chilled shot. A Victorian firm has also undertaken the manufacture of cartridges. The factory is situated at Saltwater River, and is known as the Colonial Ammunition Company. The first samples of their work were delivered to the defense department in Melbourne in October last, and were tested by a board of officers appointed for the purpose. The board, in making their report, said:

> A number of rounds were taken indiscriminately and fired by selected shots. At 500 yards four trials of ten rounds each showed a mean deviation of 0.71, 0.87, 0.90, and 1.21 feet, respectively, and at 800 yards one trial of nine rounds gave a mean deviation of 1.94 feet. In comparison with the latter, ten rounds of imperial ammunition were fired by the same shot, and the mean deviation found to be 1.40 feet. The 500-yard range is considered the best for testing either rifles or cartridges, and, though the limit of mean deviation for the latter is not laid down in the musketry regulations, it is fixed for the former at 1.25 feet. As none of the tests at this distance gave a greater mean deviation than 1.21 feet, and as the day was unsuitable—the wind being very strong and variable both in strength and direction—the results were satisfactory. Twenty rounds were opened and examined in detail, in all of which the bullet was found to be from 2 to 3 grains under the prescribed weight (480 grains); but this was not considered of serious importance. In six of the twenty cartridges the charge of powder was correct (85 grains), while five were outside the limit of 1 grain allowed each way by the board as a reasonable margin. Twenty rounds of imperial and ten rounds of Kynoch's ammunition were also examined by way of comparison. Of the former, only one round was found to be outside the margin mentioned regarding the powder, while the bullets were practically the same as in the colonial. Four of the Kynoch cartridges contained the exact quantity of powder (85 grains), the remaining four varying only half a grain. The

new company's cases were not so well rolled as the others mentioned, and there appeared a defect in the lining or in the lacquer used. Neither were the packets so well done up as the imperial packets. In concluding, the board was of opinion that the cartridges were serviceable for ordinary military purposes, but that the defects mentioned should be pointed out and their remedy insisted upon in future supplies. These recommendations have been concurred in by the military commandant.

The value of the imports of cutlery into New South Wales during 1889 was $216,815. Of this amount, only $3,930 came direct from the United States. There ought to be a steadily increased demand for American cutlery in these colonies, and several firms who have imported such articles from the United States speak in high terms of them, especially of the American shears and scissors. Indeed, their superiority, to judge from the following extract from the London Engineer, is readily acknowledged in England. The Engineer says:

> A trade which at one time was regarded as one of the dying industries is again reviving rapidly—that in scissors. German competition has been excessively keen in scissors for domestic use, particularly those in the cheaper qualities. The Americans beat both English and German in the tailors' scissors, which are, perhaps, the most important branch. American-made tailors' scissors are preferred even in Sheffield.

The value of dental tools and material imported during 1889 was $23,650; of this amount, $11,260 was received from Great Britain and $12,290 from the United States. Railway material to the amount of $491,350 was imported during the same period, the United States contributing only $14,690, the remainder coming from Great Britain. The value of gas-fittings imported was $226,175; and of lamp ware $101,255; of this, $42,390 was from Great Britain and $33,195 from the United States. The imports of lamp ware have declined since 1885, when the value was $189,375; in 1886 they were $165,680.

Among the articles imported from the United States for which there is a steadily increasing demand mention should be made of spades, shovels, hoes, rakes, vertical and circular saws, carving tools, chisels, planes, ice-clippers, ice-cream freezers, ice-boxes, plated ware, brass castings and rock drills, axes, door hinges, punches, pipe cutters, etc. In regard to axes, it may be well to note here the very fair imitations of American axes by James Howarth & Son; but in small and medium sized axes this firm's manufacture is a long way behind the American ax both in price and quality. The British manufacturers have not yet tried their hands at the deep-cutting groove ax that has been successfully introduced into this market. This pattern of ax is becoming daily more and more popular. It does not bind in the timber, but is easily withdrawn.

LOCOMOTIVES.

The locomotives manufactured in the United States for this colony give very general satisfaction. They not only command the requirements of the railway traffic better than others, but were secured at considerable less cost and in much shorter time than those manufactured in England; but for some reason the contracts were not renewed, and, when the New South Wales Government advertised for tenders for fifty locomotives about the beginning of the present year, no offers came from the United States; and, after vainly trying to secure their manufacture in the colony, the Government was obliged to accept the offer of an English firm for their manufacture at $18,250 each delivered in Sydney. Twenty tank-engines have also been ordered from England at a cost of $13,000 each.

PRICES OF IRON AND HARDWARE.

Notwithstanding the depressed condition of trade and commerce occasioned by the great labor strike, there is a brisk demand for all kinds of iron and hardware. In the early part of the year prices ran up to enormously high figures, amounting to 60 per cent. over those of the corresponding period of 1889. Merchants, however, were somewhat shy of handling either iron or hardware on account of the speculative character of the market. The advance in price, it is said, was not warranted by any natural condition, either of higher cost of production or of excessively reduced stocks. A check was given to this kind of speculation, and the market assumed a healthier tone. The present quotations are as follows: H. B., $63.26; Netherton's, $65.69; sheet-iron, $68.13; hoop-iron, $65.69; fencing wire, $55.96 for No. 8 and $58.40 for No. 10; wire nails (4 inch), $3.77 per cwt. There is no duty charged on nails in New South Wales.

The shipments of large quantities of bar, rod, and other kinds of iron from the United States to London has attracted general attention here, and is thought to be remarkable, especially at a time when there is such a heavy demand in America for iron and steel for the construction of railways and naval vessels.

STEAM COMMUNICATION WITH NEW YORK.

The great length of time required to obtain iron and hardware from the United States by means of the slow-sailing old wooden vessels has induced importers to have their goods sent to London and reshipped from thence to these colonies. Articles shipped in that way do not show in the customs returns and are there set down as British produce. Recently a line of steamships has been established by the Australian and American Shipping Company to sail from New York to Sydney and Melbourne. The voyage will be by way of Cape of Good Hope, and will occupy less time than by way of London. This line of steamers will be of great advantage to the American iron and hardware trade, as importers will not be obliged to put up with the delay and expense of transshipment. It will be difficult at first to obtain a return cargo, and the steamers will probably have to load for intermediate ports and return thence to the United States.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, November 25, 1890.
No. 124——7.

RUSSIAN TARIFF AND INDUSTRIES.*

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

According to recent official publications, Russia possessed in 1887 a total of 21,247 factories, giving a yearly output of 1,120,250,000 rubles, or $560,125,000. In keeping an account of omissions, which are inevitable in such calculations, the industries placed under the excise system, namely, the exploitation of mines, the construction of vessels, as well as the small industries, numbering 54,468 establishments in 1887, and the industries in villages, the annual output of Russian industry in its totality amounts to at least $750,000,000, and more than a million workmen are employed by these factories and various works.

On examining the degree of influence of the tariff on the advance of industry, it appears that this influence is most favorable, as proved by the data found in another official publication, which refers to the Russian manufacturing industry for the period of 1867 to 1888, that is to say, the epoch posterior to the revision of the customs tariffs and to the introduction of duties levied in gold money.

One observes an absolute reduction of production in very few branches of Russian industry, and that reduction is generally found in specialties which had never attained large proportions. To illustrate: The production of candles, tar and turpentine, cast-iron, silver and lead, horse-hair, down, and pencils is decreased, and for the last ten years the production of fire-arms has also decreased, because of the fact that orders made for arms at the three manufacturing establishments of fire-arms of the country have been smaller.

There are also other branches of industry which have not developed in proportion to the increase of population and to that of the Russian railway communications. For instance, stearine, wax, tallow, soap, and cosmetics, in a space of twenty years, have only increased from $3,750,000 to $4,000,000. Since 1880 a general decrease of these articles has been observed. There is also little development in the production of matting, joinery, the casting of copper and bells, in jewelry, pottery, articles of leather and papier-maché, cables, carriages, conserves, and vinegar. The manufacture of hats and of musical instruments had advanced up to the year 1879; since then these industries have gradually declined. As seen, these are secondary branches, whereas the principal branches of Russian industry have all made enormous progress during the last twenty years, or since the appearance of the principles of protective tariff.

The protection granted to chemical products and to dye works is not considerable, and still in this space of time this specialty, Poland excluded, has increased from $2,308,500 to $7,653,500; and, if the provinces of the Vistula are joined to those of Russia proper, the increase amounts to

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*Based upon official statistics and upon a leading article in the Novia Vremia (New Times), of St. Petersburg.

$8,445,000. There is great progress to be seen, also, in the manufacture of saltpeter. Matches have risen from $228,500 to $1,824,500; and even wax candles, in view of the decrease of the product of wax, show an important increase. The production of naphtha has increased in twenty-three years from 999,000 poods, or 17,982 tons, to more than 3,600,000 tons, besides $9,000,000 worth of mineral oil and over 72,000 tons of mineral grease.

The production of sawn timber has more than doubled since 1874, and, including Poland, it amounts to about $10,750,000. The industry of different metals has also increased; thus, cast-iron has risen from 306,000 tons to 720,000 tons, and silver and lead from 198,000 tons to 630,000 tons. The production of machinery has almost quadrupled, and actually amounts to over $27,000,000. The result is almost the same in the case of copper and bronze articles, and nails and wire product have increased tenfold during the last twenty years. It is also claimed that the progress of the Russian metallurgical industry is due to the high duties imposed upon foreign products. The production of gold has increased from 59,400 pounds to 77,328 pounds (English); that of platinum, from 3,924 pounds to 5,976 pounds; common salt, from 796,068 tons to 1,271,988 tons; and coal, from 480,528 tons to 5,698,656 tons. Ten years ago Russia produced no manganese, whereas to-day 72,000 tons are produced. The production of cement and alabaster has more than doubled; the result is the same for porcelain and Delft-ware, glassware, crystal, and mirrors.

It is surprising to see how the production of paper pulp has increased in the last ten years, rising from an industry of only $14,000 to $344,500, while that of paper has increased from $2,500,000 to $8,500,000. Wall-paper has not prospered so well, and still its production has increased from $203,500 to $706,500.

If the production of leather has increased only two and a half times, that of India rubber has increased from $356,000 to $4,750,000.

One of the most striking features of this question.is this great progress in the production of the principal manufactures, for which vast sales exist in Russia, as well as in the bordering countries. The wool manufactories have increased their output during the last twenty years from $1,250,000 to $10,000,000; those of woolen tissues have increased their production threefold, or $18,500,000, and those of woolen cloths from $17,000,000 to over $23,000,000. There is also a considerable increase in the manufacture of felt and carpets in the same period of time.

The progress of the cotton industry is still more striking. The cotton-mills have brought their production from $21,000,000 up to $66,750,000. The production of cotton tissues has increased from $15,000,000 to over $78,000,000, notwithstanding the fact that the number of cotton-mills has fallen during the last ten years from 632 to 339. The production of cotton prints has also increased from $15,000,000 to $75,000,000, although the number of mills has fallen from 714 to 311 by means of company consolidations, the larger establishments, here as elsewhere, gradually absorbing the smaller. The product of wadding is to-day six times greater than it was fifteen years ago.

The cotton industry in no way affects the industry of flax, a leading Russian product. The production of flax yarn in the Russian provinces alone has increased in ten years from $2,500,000 to $6,500,000, and the number of workmen employed has doubled, whereas in the Kingdom of Poland this industry has increased 100 per cent. in the same time. Great progress is also to be noticed in the production of oil-cloth, of fancy trimming, and this entire line of goods. The production of silk fabric also increased from $2,000,000 to $6,250,000.

The question as to whether the progress of manufacturing industry obtained by a protective tariff prevents the advance of agricultural industry has been many times discussed, and it is generally believed—in fact, proved—by some economists that many of the branches of rural economy have improved under this system. The production of flour, for instance, has increased within the last ten years from $38,500,000 to $82,500,000; that of oat-meal has quadrupled. There is also a large increase in the production of starch, yeast, cheese, chicory, mustard, macaroni, mineral waters, and potash, while butter has increased from $3,500,000 to $7,000,000, and confections from $3,000,000 to $5,000,000. But the triumph of the protective system in Russia is the sugar industry, which did not exist at all fifty years ago, and which in 1885 consumed 6,120,000 tons of beet roots and employed 93,395 workmen. Formerly foreign sugar cost double the price that Russian sugar now costs.

A very important question, that of the duties to be levied on agricultural machines imported, is now under discussion by the tariff committee. This committee has had placed before it several projects concerning the raising of the tariff on these machines, which at present pay a duty of 70 copecks, or about 47 cents, per pood, or 36 pounds.

Mr. Afanassiew would have the tariff raised to 1.40 gold rubles per pood. The committee of the Moscow Exchange has petitioned that the tariff be raised to 2.50 and 3.50 gold rubles per pood, the latter duty to be levied on all machines weighing less than 3,600 pounds, so that it would affect for the greatest part the implements of first necessity required for agriculture.

It appears that all the agricultural societies questioned on this subject, as well as the exchange committees of the towns of Kharkov, Odessa, Riga, and Revel, have pronounced themselves against any eventual increase in the tariff on agricultural machines.

According to calculations made by the Agricultural Society of Poltava, the increase in the tariff proposed by Mr. Afanassiew would be equivalent to a tax on rural economy of 2½ copecks per bushel of cereals or 15 copecks per acre of land plowed. The tariff on agricultural machines, as it is now, absorbs 6.4 per cent. of the net revenue of land and is equivalent to about three-fourths of the total land-tax. The Free Economic Society considers this imposition as being still more, viz, 206 metallic copecks per pood. If

Mr. Afanassiew's project were adopted, it would amount to 3.41 metallic copecks.

Agriculture is already heavily imposed with the existing tariff. The tariff on scythes alone, which every agricultural laborer must possess, costs the country more than $1,000,000, as scythes of Russian manufacture are so defective that they are seldom employed.

It would seem from the data given in this report that the high protective tariff system in force for many years past in Russia has naturally improved the condition of agriculture, as well as all other prime industries of the country, so much that the committees of finance and of home industry are said to be seriously discussing the question of raising the existing schedule of duties on imports in the line of every important industry.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, November 27, 1890.

COMMERCIAL TRAVELERS IN FOREIGN COUNTRIES.

REPORT BY CONSUL SHERMAN, OF LIVERPOOL.

From official documents, mainly Parliamentary papers, I have gathered the accompanying summary of existing regulations affecting commercial travelers in nearly all parts of the world. And with such a paper it is perhaps well to record a decision, interesting alike to commercial travelers and their employers, given by Lord Justice Lopes in the court of appeal, supreme court of judicature, in July, 1889, and apparently not published in the regular law reports.

The plaintiff agreed with the defendants to introduce customers, the plaintiff to be paid a commission upon all orders executed by the defendants received from such customers and paid for by them. The plaintiff introduces customers. The defendants subsequently dismiss the plaintiff, but execute and are paid for orders from such customers after the dismissal. The judges decided that plaintiff was entitled to all commissions on orders given by customers introduced by him to defendants, executed by the latter and paid for by the customers, although such orders were given after plaintiff ceased to be in defendants' employ. It was also decided that defendants were not bound to pay commissions upon orders obtained from, and paid for by, customers introduced by plaintiff after he, the plaintiff, ceased to be in the defendants' employ.

The question was as to the true construction of certain words in two letters from the defendants to the plaintiff, viz:

> As regards your commission, we hereby agree to allow you 1½ per cent. upon all orders executed by us and paid for by the customers arising from your introduction.

Under this agreement the plaintiff introduced customers from 1879 down to February 1, 1888, and a considerable trade resulted to the defendants. The plaintiff was then summarily dismissed, the defendants continuing to do business with his customers and at the same time declining to give him any commission. No claim was raised on this occasion as to the past commission, the only question being whether, under the terms of the agreement, the plaintiff was entitled to commission on business done by the defendants after February 1, 1888, with customers introduced by him before that time, or whether all right to future commissions ceased at the time of his dismissal. The plaintiff contended that, by the terms of the agreement, he was to receive commission in respect of all orders executed by the defendants and paid for by their customers arising from his introduction, not only during the time he was in their employment, but afterwards; that, whatever might justify them in dismissing him—in effect preventing him from introducing new customers after dismissal—he was, and always would be, entitled to commission on all orders executed and paid for by customers introduced previous to dismissal. The fact of introduction was sufficient to entitle him to that.

The defendants, on the other hand, said that this agreement applied only to the time the plaintiff was in their employment, and that, as soon as that employment was terminated, they were no longer liable to pay commissions, even although the orders arose from the introduction of the plaintiff; that it would be a great hardship on the defendants if they were bound during the life of the plaintiff to pay these commissions, the plaintiff having ceased to be in their employment.

Lord Justice Lopes, in giving judgment, said that he was impressed at first by the view that when the agreement terminated it would be a hardship for the defendants to have to account to the plaintiff. The plaintiff's lawyer had said, however, that no such hardship existed, because they were not obliged to execute those orders which arose from the plaintiff's introduction. That suggestion was weighty and cogent, and he had come to the conclusion that the plaintiff was entitled to commission, provided the order arose from his introduction, although the employment had terminated.

From this judgment an appeal was taken to the court of appeal, and there dismissed.

A similar case has just been settled here without going into court. Plaintiff agreed with defendant to introduce customers, for which the former was to be paid by commission. Subsequently defendant dismissed plaintiff, who claimed commission on all orders from customers introduced by him, plaintiff, and executed. Defendant refused to satisfy the claim, but eventually, through the intervention of a solicitor, agreed to pay the commission up to the time of dismissal in satisfaction of all claims. Plaintiff refused this offer, and, finally, defendant paid the commission up to date of issue of writ without reservation.

There are more than sixty thousand commercial travelers in the United Kingdom. In 1845 an institution was founded by them at Pinner for the "clothing, maintenance, and education of the destitute orphans of deceased, and the children of necessitous, commercial travelers." This institution is supported solely by voluntary contributions, and the sum of $45,000 is raised annually for its maintenance.

THOS. H. SHERMAN,
Consul.

UNITED STATES CONSULATE,
Liverpool, December 13, 1890.

REGULATIONS AFFECTING COMMERCIAL TRAVELERS.

[Inclosure in Consul Sherman's report.]

GREAT BRITAIN.

In Great Britain commercial travelers, as such, have no fees to pay, and are not required to take out licenses, whether traveling for English or foreign houses. The following particulars as to the regulations respecting the admission of patterns and samples imported by commercial travelers are copied from the imperial tariff for 1890:

"COMMERCIAL TRAVELERS' PATTERNS AND SAMPLES.

"*Declaration for the admission, duty free, of patterns and samples imported by commercial travelers, signed at Berlin April 1, 1869.*

"Articles liable to duty serving as patterns and samples which are introduced into Great Britain by commercial travelers of the Zollverein states, or into the Zollverein by commercial travelers of Great Britain, or into the United Kingdom by French commercial travelers, or into France or Algeria by commercial travelers of the United Kingdom, shall henceforth be admitted free of duty, subject to the following formalities requisite to insure their being re-exported or placed under bond:

"(1) The officers of customs at any port or place at which the patterns and samples may be imported shall ascertain the amount of duty chargeable thereon. That amount must either be deposited by the commercial traveler at the custom-house in money or ample security must be given for it.

"(2) For the purpose of identification, each separate pattern or sample will, as far as possible, be marked free of expense by the affixing of a stamp or by means of a seal or leaden seal being attached to it.

"(3) A permit, or certificate, shall be given to the importer, which shall contain: (*a*) A list of the patterns or samples imported, specifying the nature of the goods and also such particular marks as may be proper for the purpose of identification; (*b*) a statement of the duty chargeable on the patterns or samples, as also whether the amount was deposited in money or whether security was given for it; (*c*) a statement relative to the manner in which the patterns or samples were marked; (*d*) the appointment of a period, which, at the utmost, must not exceed twelve months, at the expiration of which, unless it is proved that the patterns or samples have been previously re-exported or placed under bond, the amount of duty deposited or the amount recovered under the security given will be carried to public account.

"(4) Patterns or samples may also be re-exported through any other custom-house than the one through which they were imported.

"(5) If, before the expiration of the appointed time (*3 d*), the patterns or samples should be presented to the custom-house of any port or place for the purpose of re-exportation or being placed in bond, the officers at such port or place must satisfy themselves by examination whether the articles which are brought to them are the same as those for which the permit of entry was granted. If there are no objections in this respect, the officers will certify the re-exportation or deposit in bond, and will refund the duty which has been deposited, or will take the necessary steps for discharging the security.

"Samples imported by Swedish, Norwegian, and Austro-Hungarian travelers are permitted to be delivered duty free upon the same conditions as are presented above.

"The board of customs have approved of the following regulations to govern the exportation and subsequent importation free of duty of commercial travelers' duty-paid samples:

"(1) A specification in the usual form is to be made out in duplicate by the exporter and presented to the collector at the port of examination and shipment, containing an inventory of the articles to be exported, specifying the nature, number, quantity, marks, etc., and all such particulars as may be necessary and proper for their indentification on return to this country.

"(2) The goods having been duly examined and shipped, the proper officer is to sign both specifications, handing one to the exporter or the person having custody of the goods, to be by him produced and given up to the officers of customs for cancellation on the return of the samples, and filing the second copy for reference.

"If the samples be brought back to this country through a port other than that from which they were exported, they are to be detained pending the production of the duplicate specification from the port of shipment."

AUSTRIA-HUNGARY.

No special license or fees are required from commercial travelers when acting as agents of legally established houses in the United States, but they must show that their employers comply with the laws at home respecting taxes, etc., on their business.

BELGIUM.

Commercial travelers for foreign houses are subject to a license fee of $4.86. Samples pay the same duty as the merchandise they represent; but certain samples, especially tissues, when too small for other uses, are duty free. If of larger size or whole pieces (shawls, handkerchiefs, cravats, etc.), they must have their market value destroyed by mutilation before admission duty free. Every sample of tissues exceeding 30 centimes in length throughout its whole width is subject to duty. Other samples can be temporarily admitted free, their re-exportation to be insured by compliance with certain requirements.

BULGARIA.

No regulations exist.

DENMARK.

(1) Foreign merchants or commission houses are absolutely forbidden to expose for sale or to sell goods or wares outside of Copenhagen or the Danish municipal towns (*Kjöbstæder*) either personally or through travelers.

(2) Even in Copenhagen or the said municipal towns a foreigner is not at liberty to offer or sell goods to other persons than such as are licensed to transact business in such goods, viz, merchants *en gros* (*Grosserere*) or *en détail* (ordinary merchants, *Kjöbmænd*, or other persons that have taken out the necessary licenses), manufacturers, and mechanics, and other licensed traders. To merchants the foreigner may only sell such goods in which such merchants are allowed to trade; to manufacturers, mechanics, and other traders they may only sell such goods as these persons require for their manufactories or trades.

Accordingly, it is absolutely forbidden to sell goods directly to the consumers.

The goods must not be sold in smaller lots than what is reckoned as sale *en gros* (generally not less than $10.72).

(3) A foreign commercial traveler is bound to apply to the custom-house official at the first custom-house place where he arrives from foreign parts, and before that official to produce certificates from the magistracy at his place of residence, showing whether it is for his own

account or for the account of others that he intends to do business, and, if for other merchants or manufacturers, the certificates must state the names of such other persons or firms.

The custom-house official shall then hand to the traveler a certificate, which he must present to the chief officer of police of the place before making use of it. The certificate is valid only for one year, but may, at the expiration of the year, be exchanged for a new certificate, also running for one year. This new certificate is to be issued by the custom-house officer at the place where the traveler is dwelling at the time when the first certificate expires.

For such certificate and for each renewal of the same the fees are $42.88. If the traveler represents more than one firm or manufacturer, he has to pay, over and above the $42.88, a fee of $21.44 for each such firm or manufacturer.

If the firm is obliged during the lapse of the year in which the certificate is running to change their traveler, a new certificate may be taken out by the new traveler for the remainder of the year without any fees having to be paid.

(4) If the traveler is traveling about with samples, he has to pay the ordinary customs duty on such samples, and the samples are to be shown to the custom-house officer. The same applies to sample books, etc.

(5) On his arrival at any town where the traveler intends doing business, he is to present his certificate to the custom-house officer and to the chief officer of police.

(6) The above enactments also apply to Danish subjects who are traveling for the account of foreigners.

(7) If, before showing the certificate to the custom-house officer and the chief officer of police, any commercial traveler should transact any business, he is liable to be fined $4.29. For other offenses against the above enactments (especially for transacting business without taking out a certificate) the traveler is to be fined: the first time, $17.15; the second time, $25.73; the third time, $35.38. If he offends a fourth time, he is both fined $35.38, and, moreover, loses his right of doing business, and at the instance of the police he may be sent out of the country. Besides the above penalties, a traveler may be fined for offenses against the customs laws or for unlicensed trading.

Samples of goods that are not presented as the law directs are to be confiscated.

In default of payment of the fines the traveler may be imprisoned as a subsidiary punishment, according to the ordinary rules of the Danish law with regard to the non-payment of fines.

FRANCE.

No regulations exist; commercial travelers of every nationality carry on their business without interference of any kind and without any payment of fees or licenses.

GERMANY.

PROVISIONS RELATING TO FOREIGN MERCHANTS, COMMERCIAL TRAVELERS, ETC., PUBLISHED IN THE SUPPLEMENT TO THE CENTRAL GAZETTE OF THE GERMAN EMPIRE OF NOVEMBER 3, 1883.

I.—*Generally speaking.*

(1) Foreigners who desire to trade while moving from place to place require a special license for that purpose.

(2) Foreigners who desire to carry on ordinary frontier commerce by the exclusive sale of raw materials appertaining to agriculture or forestry, horticulture, etc., or of poultry or bees only, are exempted from the obligation provided in the above clause; such a trade may, however, be forbidden should any of the conditions mentioned in sections 57 (Nos. 1 to 4), 57*a*, or 57*b* (Nos. 2 to 4) of the commercial code present itself.

(3) As regards the carrying on of any trade while moving from place to place, as well as regards the issue, refusal, or withdrawal of the special license, the provisions laid down in chapter 3 of the commercial code shall be enforced.

(4) The issue of a traveling trade license shall be refused, if there is no necessity for making out such licenses for the conduct of the trade in question within the district of the authorities (applied to), or as soon as such licenses may have been issued or extended (*vide* No. 6) in numbers corresponding to the conditions of the district over which the said authorities have the administration.

In addition to the above, as regards the vocation of tinker, workers in lead and wires, etc., organ-grinders, and bagpipe players, a license may only be issued to such persons as can prove that they received a license for the same business during the preceding year. Gypsies shall always be refused such licenses.

(5) Foreigners who have either not yet reached the age of twenty-one or whose characters are subjects of suspicion to the police are not to be allowed to carry on an itinerant trade.

A license which has been issued may be withdrawn, should such considerations be raised after its issue.

(6) The traveling trade license allows the possessor, after paying the fees imposed by the Government of the country, to carry on his trade while moving from place to place within the district of the authorities who issued it. In order to carry on his trade in another district, his license must be extended by the authorities of the district in question. Such extension shall be refused if [same as in No. 4].

Section 58* of the commercial code shall be applied, as well as the above No. 5, paragraph 2, in case of withdrawal of the license.

The right of expelling a foreigner from any district remains unaltered by these provisions.

(7) The fact of a foreigner's possessing no domicile in the country shall not be considered as a reason for refusing to issue him a traveling trade license or for refusing to extend it when issued.

(8) Such licenses may be drawn up, as well as extended, for a shorter time than the calendar year or for a specified number of days within the calendar year.

(9) The licenses will be drawn up in the manner indicated under heading III.

(10) Any person who, while carrying on an itinerant trade from place to place, desires to be accompanied by another person must obtain the permission therefor of the authorities who issued or extended his license. Such permission will be notified upon the license, with an accurate description of the persons in question.

Persons with regard to whom the authorities do not receive satisfactory replies to the questions to be put to their master shall not be allowed to accompany the latter. This provision applies equally to the cases of a German subject accompanying a foreign tradesman or of a foreign subject accompanying a German tradesman.

Permission to be accompanied by persons of the opposite sex may be refused, even though none of the reasons for refusal given under Nos. 3 to 5 should be present, except in cases of married persons or of own children or grandchildren over the age of twenty-one.

(11) Measures taken upon the basis of these provisions, including, also, a refusal to approve a catalogue of books or any printed matter (by section 56, paragraph 4, of the commercial code it is provided that all traveling tradesmen selling books or other printed matter must submit a catalogue of the literature they offer for sale to the proper authorities for approval), can only be proceeded against by sending in a complaint to the immediately superior police authorities.

II.—*Regarding the business of foreign commercial travelers in particular.*

(1) The provisions laid down by treaties shall find application in the cases of commercial travelers whose position is legalized by means of a commercial traveler's license (*Gewerbelegitimationskarte*), as prescribed in the State treaties. Whensoever commercial travelers offer

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[*] This clause provides that, should the specified reasons against issuing the *Wandergewerbeschein* be found to have existed unknown to the authorities before its issue, or only present themselves after its issue, they are equally valid as grounds for withdrawing the same.

goods for sale to, or bring goods from, persons other than merchants or producers of such goods, or in places not devoted to public sale, or whensoever they try to obtain orders for goods from persons other than merchants, or such persons as make use of the goods in question in the prosecution of their business, the provisions given above under I shall be applied to them.

(2) Commercial travelers belonging to states with which no special agreement has been concluded respecting the commercial traveler's trade license, but which have the right of the most favored nation in regard to commerce, require a trading license (*Gewerbelegitimationskarte*) of the kind given in the following annex 1 for the conduct of their business in Germany.

These cards entitle the holder to purchase goods from tradesmen or producers of goods, or in places devoted to public sale, and to try to obtain orders for goods from tradesmen or persons such as make use of the goods in question in the prosecution of their business, throughout the whole of the German Empire, after he has paid the proper taxes, provided no special provision is made in regard to the latter by treaty of commerce (with the State of which he is subject). He may only carry with him patterns of goods, but no actual goods.

The provisions of chapter 3 of the commercial code shall be applied in regard to the issue, refusal, or withdrawal of the cards for the legalization of trade, with the reservation that the fact of having no domicile in the country (section 57 of the commercial code) does not form a reason for refusing to issue such a card, and that measures taken upon the basis of these provisions can only be disputed by means of complaint made to the directly superior authorities of police (*Aufsichtsbehörde*).

(3) As regards the conduct of the business of commercial travelers (Nos. 1 and 2), the provisions of chapter 3 of the commercial code shall receive corresponding application.

III.—*Formulas for traveling traders' licenses.*

Such licenses are to be drawn up as per forms annexed, of which Formula A must be used in cases coming under section 55, No. 4, of the commercial code, Formula B for subjects of the Empire, and Formula C for all other cases of commercial business being conducted while moving from place to place.

IV.—*Final clause.*

The above provisions shall come into force on the 1st of January, 1884.

Annex 1 to the Central Blatt for the German Empire for November 3, 1883, p. 308.

GERMAN EMPIRE.

(*Kingdom of* [*seal*] *Prussia.*)

Trade license for foreign commercial travelers for the year 18—.

(Valid for the German Empire after fees of states are paid.)

M ———, resident at ———, is empowered ——— to buy goods on account and to obtain orders for goods.

The ——— of ——— 18—.

———

———

On the back of this card the following is printed:

"The holder of this card is empowered to buy goods only while moving from place to place, and exclusively on account of the aforesaid firm of———, from tradesmen or persons who themselves produce the goods in question, or in places devoted to public sale, and to obtain orders from tradesmen or persons in whose trade the goods in question are used.

"He may only take patterns of goods, and not actual goods, with him.

"He is required to carry this card upon him while engaged in his business, to produce it if desired to do so by competent authorities or officials, and, should he be unable to do so, to give up continuing his business upon their order to that effect until the card be found.

"The card is not transferable."

Extract from the Central Blatt für das Deutsche Reich, of November 16, 1889.

Notice of the 8th of November respecting an alteration made in the provisions for putting into execution the commercial code issued the 31st of October, 1883.

By decision of the federal council, the words "subject of——" ("staatsangehörig in——") are to be added to the established formulas A, B, C, for itinerant trade licenses (*Wandergewerbeschein*) (*vide* notice of the imperial chancellor of the 31st of October, 1883, Central Blatt, p. 305), and placed upon p. 1, after the words "resident at——" ("wohnhaft zu——").

Official memorandum of March 3, 1890.

(1) English commercial travelers, whose business is restricted to purchasing goods from merchants, or from such persons as produce them, or else in public market-places, and to trying to obtain orders for goods from merchants or persons in whose trade or business the goods offered for sale are used, are relieved of the duty of paying dues or fees within the Empire by virtue of the most-favored-nation clause, so long as they carry about with them patterns of goods only and not actual goods. They must, however, pay a trifling fee, which differs in the different states of the German Confederation, in order to obtain the necessary trade license (*Gewerbelegitimationskarte*).

(2) Foreign commercial travelers, whose business is not restricted as described under paragraph 1, or who offer their wares for immediate sale (so-called retail travelers), are required to pay the duty levied in the separate confederated states for the right of trading while moving from place to place, as well as the fee for the requisite "itinerant trade license," the amount of which is also different in the various confederated states.

GREECE.

Commercial travelers are not subject to any license or permit while traveling in Greece, when provided with authentic proof of their occupation as such.

ITALY.

Under the most-favored-nation clause, "beyond a certificate of identity, no fee nor license is required, and every facility appears to be given by the Italian customs authorities for the free entry of all samples which commercial travelers may bring with them."

MONTENEGRO.

No fees or licenses are required.

NETHERLANDS.

Whilst different and, in some cases, less favorable regulations are in force with reference to Netherland commercial travelers and those of some other nationalities, as set forth in article 7 of the law of the 24th of April, 1843 (Staatsblad No. 16), British commercial travelers pay a fixed license duty of $6.21 per annum, and, under the most-favored-nation clause, commercial travelers from the United States pay no more than this sum.

All commercial travelers enjoy the same advantages as regards the patterns which they bring into the Netherlands. Patterns having no commercial value are always admitted free of import duty into this country, whilst goods liable to duty, which are imported by commercial travelers to serve only as patterns, are also admitted provisionally free of duty, on condition of the observance of the necessary customs formalities for securing the re-exportation of such goods.

PORTUGAL.

No regulations exist.

ROUMANIA.

Commission agents, commercial agents, commercial travelers, and, in general, all who serve as intermediaries between manufacturers and commercial houses shall declare in writing to the chamber of commerce, or, failing the chamber of commerce to the local communal authorities (*primaria*) the houses or manufactories for which or in whose name they work, and, at the same time, they shall deposit a copy of the power of attorney, in virtue of which they are authorized to receive orders for their respective houses, whether wholesale or retail.

This power of attorney shall be drawn up in accordance with the laws of the country where it is issued and duly legalized by the Roumanian legation in that country.

The chamber of commerce to whom such a power of attorney is presented shall register and keep in its archives a legalized copy of this document, recording the date, the articles or products concerned, as well as the names of the commission agents and of the house represented, and shall also deliver a certificate that it has deposited and registered the same.

When the power of attorney is presented to the local communal authorities, they shall inscribe the same and send a legalized copy to be kept by the chamber of commerce of the district in which the commune is situated.

Due notice shall also be given by the agent or intermediary to the chamber of commerce of the withdrawal of the authorization to represent this or that house or manufactory.

It is stated in article 9 of the law on licenses (*legea patentelor*) that persons who come provisionally from abroad with different manufactures or other articles, and who sell them in retail to individuals or wholesale to commercial houses, are considered as intinerant (*ambulanti*) and are subjected to a tax of half of that paid by merchants dealing in similar articles—as a rule, 2½ per cent. per annum.

RUSSIA.

Commercial travelers, when visiting all parts of the Empire, with the exception of the grand duchy of Finland, need not provide themselves with licenses for the legal prosecution of their business.

In Finland, however, by a decree issued on the 26th of January, 1889, the provisions of which apply as well to Russian commercial travelers as to those of all other nationalities, all such travelers offering or disposing of wares of foreign origin for their own account or for that of others are liable, after a residence exceeding three days in Finland, to a tax of $24.33 for the right of trading during one month, reckoning at the rate of a complete month, although only a part of that month may be devoted to trading in the country. At the expiration of a month for which the license was issued the same must be renewed for a further period of one month, and so on, according to the duration of the time of the commercial traveler's transaction of business in the grand duchy.

For the infraction of the foregoing decree a fine is imposed in addition to the exaction of the established tax, and the proceeds of the fine are shared equally between the informer and the poor.

NOTICE.

As uncertainty seems to exist concerning the application of paragraph 1, section 1, of the decree dated the 17th of December, 1888, touching the tax which shall be imposed on foreigners trading in Finland during the years 1889, 1890, and 1891, the finance department, in accordance with the determination of the Senate, gives notice that, when commercial treaties have been concluded between Russia and certain foreign states, the subjects of those states, when trading in Finland, shall be freed from the payment of all taxes other than or higher than those imposed on the inhabitants of the country; hence the trading tax named in paragraph 1, section 1, of the above-mentioned decree shall not be applied to the merchants or travelers of those states nor to Russian subjects of the same category.

SERVIA.

Commercial travelers must be provided with a document in accordance with the form shown below (which, in order to avoid delay at the frontier, should be drawn up or accompanied by a translation in the German language), as, if they arrive in Servia without such a document properly certified by the authorities in their own country, they would subject themselves to the payment of a trade tax.

An import duty is charged on all samples and patterns, for which a drawback is given if required, the amount being repaid on re-exportation. But if this occurs at some other place than that of entry, then due notice must be given at the latter place, in order that the traveler's desire may be notified to the customs authorities at the intended place of exit.

Besides the above-mentioned import duty, which is levied provisionally, all samples and patterns are subjected to the following charges, the money thus paid not being returned on their re-exportation: For loading, 4 cents per 100 kilograms; for weighing, 1¼ cents per 100 kilograms; for paving, 2 cents per 100 kilograms; for warehousing, 1 cent per 100 kilograms, per day.

TRADE CERTIFICATE FOR COMMERCIAL TRAVELERS, GOOD FOR THE YEAR 18—.

It is hereby certified that Mr. ——— is the owner of a ——— warehouse (manufactory) in ———, under the firm ———.

As Mr. ——— intends to solicit orders for the said firm and for the following-mentioned firms, ———, in the Kingdom of Servia, he is hereby enjoined to conform to the regulations of this country in his commercial operations for the aforesaid firm.

The bearer of this certificate is authorized to travel, to take up orders, and to make purchases exclusively in behalf of the aforesaid firms. He shall take patterns only, but no wares. In soliciting orders and in making purchases he shall observe the regulations of the country.

(Name of place, date, signature, and seal of the certifying authorities.)

(Description, residence, and signature of traveler.)

SPAIN.

BARCELONA DISTRICT (INCLUDING VALENCIA AND ALICANTE).

The answers given by the local officials to the questions put to them on the subject are somewhat ambiguous. A license costing about $29.42 is taken out by travelers in plate and jewelry, and one, of which the price is about $24.53, by those dealing in hardware or dry goods, both of which charges are increased by a supplementary rate of about 34 per cent. But a traveler whose nationality brought him under the protection of a commercial treaty with any stipulation in his favor naturally benefits thereby.

It is suggested that British commercial travelers in the province who enjoy exemption under the most-favored-nation treatment clause in the Anglo-Spanish treaty might, nevertheless, do well to apply at the office of the *delegado de hacienda*, at Barcelona, and obtain a *patente* (license), which would be issued to them gratis.

If a commercial traveler go beyond his business of taking orders and imports or exports goods as a merchant, he renders himself liable to any tax imposed on local merchants.

BILBAO DISTRICT.

No fees or licenses are required, but a passport or other document establishing identity should be forthcoming. For any goods subject to provincial or municipal dues, a deposit for the amount is exacted over and above any duties levied by the customs.

CADIZ DISTRICT.

No special regulations are reported as being in existence.

MALAGA DISTRICT.

A similar absence of rules prevails, and no customs duties are charged on samples so long as they are not in salable quantities. If samples that might be sold are introduced, an entry respecting them might be made at the custom-house, and, on its being shown that no actual sales had been effected, duty would not be payable.

PALMA (BALEARIC ISLANDS).

No instructions are enforced beyond the observance of customs regulations, and the only inconvenience which might possibly arise would be from the neglect on the part of a commercial traveler to have his samples or goods of value declared previously to embarkation for the islands.

It may be added, in conclusion, that information given by a traveler for a French firm for haberdashery, etc., is to the effect that no practical difficulties are experienced in this branch of business, and that the best plan, on the whole, is to pay duty on entering the country on any samples or parcels of goods which may be brought with a view to possible immediate sale, and to sacrifice the amount paid on articles remaining unsold and taken away again, the recovery of drawback not being worth the trouble of the formalities to be observed.

ARTICLE IX OF COMMERCIAL TREATY BETWEEN SPAIN AND FRANCE OF FEBRUARY 6, 1882.

Spanish manufacturers and merchants, and also commercial travelers traveling in France on the business of a Spanish house, and, reciprocally, French manufacturers, traders, and commercial travelers traveling in Spain in the interest of a French house, shall be entitled to effect, without thereby being subjected either in France or Spain to any duty, purchases requisite for their trade, and to book orders, with or without samples, but without any hawking of merchandise.

ARTICLE V OF COMMERCIAL TREATY BETWEEN SPAIN AND GERMANY OF JULY 12, 1883.

Merchants and manufacturers who are able to prove in the usual international way that in the country of their domicile they have been duly recognized as such shall in this respect, in the territories of the other party, pay no dues or taxes if they, with or without samples, but without taking about with them any goods, travel themselves through the country or send commercial travelers or agents in the interests of their commercial or industrial business for the purpose of making purchases or of obtaining orders.

It is, however, to be understood that the above arrangement is not to contravene the laws and ordinances on peddlery, which in each of the two countries apply to all foreigners.

Articles liable to customs duty, which are introduced as samples by merchants, manufacturers, and commercial travelers, shall mutually be relieved from duties, on the understanding that these articles be re-exported unsold within a period settled beforehand, with the proviso that the custom-house formalities for the re-exportation or for the rewarehousing of the goods be complied with. These formalities shall be established by common understanding between the two governments.

No impediment shall be placed on the movements of travelers, and the administrative formalities with reference to travelers' papers required on entering the territories of the high contracting parties, as well as on leaving the same, shall be limited to what the public safety absolutely requires.

SWEDEN.

EXTRACT FROM AN ACT RESPECTING TAXES FOR CERTAIN PECULIAR ADVANTAGES AND RIGHTS.

Any foreigner or Swedish subject residing abroad, who has not paid taxes to the Swedish Government at the last collection, traveling about the country either on his own account or on that of another person with the view of effecting sales of foreign commodities to be delivered in the immediate future, whether traveling with or without samples, on entering this Kingdom must send in a written declaration to the nearest collector of taxes living in the town, stating how long he intends to remain and inclosing $26.80 as payment in advance for every month or part of a month of his intended stay for the privilege of carrying on his business. This payment, whether for one month or for a longer period, must be made to the tax collector of the principal town of the province in which the traveler is resident at the time. The receipt for the sum paid should be applied for on a printed form, which must be forwarded to the governor of the province. The receipts are supplied by him to the tax collectors in the towns. They shall be for $26.80 each, and must contain a notice concerning the due observance of the law on such trading.

The foreigner or Swedish subject who wishes to effect sales of foreign commodities before beginning to transact such business must prove to the police that he has paid the proper sum; and, should he demand it, the police must give him a certificate, in order to furnish him with proof of having duly applied to them.

Should any one have neglected to pay the tax or not have given information to the police before entering on business, he will be liable to a fine of from $26.80 to $134, and also, in the first instance, must pay for a license for the time during which he was carrying on business illegally.

Offenses against this enactment fall within the competency of the police courts, where such exist, and, in default, of the central courts. The proceeds of the fines shall be equally divided between the informer and the municipality in which the offense was committed.

The sums thus collected must be placed with other moneys belonging to the Crown in the provincial treasury. At the end of each year an account must be made out of the receipt forms paid in, which must be forwarded to the governor of the province, who, after having certified it to be correct, must forward it to the Swedish treasury before the end of the following January to be compared with the account from the provincial treasury.

A proper account of the receipt forms furnished by the central authorities to the governors of the provinces (which, until delivered to the tax collectors, should be kept in the provincial treasury) should be sent in before the end of January.

The above law does not apply to Norwegians dealing in Norwegian products.

NORWAY.

LAW OF AUGUST 8, 1842, AMPLIFIED BY THE LAW OF JUNE 4, 1866.

SECTION 24. Traveling merchants or merchants' clerks (commercial travelers), whether native or alien, shall not take orders for goods except in the market towns of the Kingdom, nor for smaller quantities than those specified in section 21 of the law of the 8th of August, 1842,* and in the law of the 4th of June, 1866, unless the order shall be given by a local licensed trader. If they bring their goods with them, the lawfulness of the sale thereof shall in every respect be determined by the provisions of section 21 of the law of the 8th of August, 1842, as amplified by the law of the 4th of June, 1866.

SWITZERLAND.

Commercial travelers are subjected in Switzerland to license fees in accordance with the varying regulations of the twenty-five cantons and half-cantons forming the Swiss Confederation.

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*This paragraph, as amended in 1866, permits aliens, as well as natives of every description (not being licensed traders), to import foreign goods and to sell them in the market towns of the Kingdom on the following conditions: (1) That the sales shall be effected from the vessel in which they shall have been brought, or by giving them to a local licensed trader for sale on commission or by public auction; (2) that, in the case of sales effected from on board ship or by public auction, the quantities thus sold shall not be smaller than those specified in the list attached to the law. As commercial travelers must necessarily deal with "local licensed traders," whether they desire to take orders for goods or to sell such samples or goods as they may have brought with them, it is unnecessary to reproduce the long list of imitations in quantity attached to the laws of 1842 and 1866.

Commercial travelers, however, who are citizens of the United States, under the most-favored-nation treatment clauses are exempted from these fees and licenses, if they are bona fide travelers for orders and do not carry about goods for sale.

This exemption is secured to them by article 22 of the Franco-Swiss commercial treaty of 1882, which, in translation, runs as follows:

"French commercial travelers traveling in Switzerland on account of a French house, and, reciprocally, Swiss commercial travelers traveling in France on account of a Swiss house, may, on the production of a card of legitimation in conformity with the pattern annexed to the present treaty, or on mere justification of their identity, make, without being subjected to any license fee, purchases for the needs of their industry or collect orders, with or without patterns, if they do not carry about goods for sale."

In the official list of the different license fees collected in the twenty-five cantons and half-cantons it is expressly stated that commercial travelers for orders who belong to states enjoying by treaty most-favored-nation treatment in Switzerland are exempted from these fees.

It will be seen that, with very few exceptions, Swiss commercial travelers do not enjoy similar exemption, even in their own cantons.

In order to secure this exemption, a document clearly showing that the traveler in question is employed for a house of business having an American nationality and domicile is required.

TURKEY.

No fees or licenses are required.

ARGENTINE REPUBLIC.

Commercial travelers doing business in Buenos Ayres must take out a broker's license, which is valid only in that capital. In the provinces they are subject to local regulations in force in each province, the details of which are not at hand.

BRAZIL.

Traveling dealers, or peddlers, as they are denominated in the regulation annexed to the decree No. 9870 of the 22d of February, 1888, are subject to the following taxes:

(1) As regards the general revenue, to the taxes mentioned in Schedule A of the said regulation, which, at page 53, specifies, under the word "peddler," the different descriptions of this class and the schedules in which they are included, the taxes also varying according to locality.

(2) To the tax due for the license, to be obtained from the municipal chambers, to enable them to follow their trade in the places which they desire to traverse.

(3) To the duties denominated hereto "provincial," but actually belonging to the revenue of the state of this Republic wherein their trade is followed.

In these two last cases the taxes vary according to the municipality of the state traversed by the dealer.

* * * * * * *

The cost of annual licenses granted to peddlers who trade within the municipal district, according to the value of the goods they deal in, which shall be regulated by a table, subject to the approval of the Government, runs from $10.92 to $54.60. The license for hawking cotton goods, jewelry, gold, and silver is $54.60; for hawking hardware, glassware, trays, and plated articles, $27.30; for hawking haberdashery and small ware manufactured of tin, iron, or other metals, $10.92.

As regards other municipalities forming the limits of the actual states of Brazil, municipal legislation is generally uniform; bearing in mind, however, that, in virtue of article 2, paragraph 4, of the decree of the 20th of November last, the powers conferred by the additional act on the extinct provincial assemblies regarding the settling of municipal expenditure and dues necessary for same have ceased to exist.

Commercial travelers (*caixeiros ambulantes*), who offer goods for sale in the interior of Brazil by means of samples, being, as they are, in fact, the agents of the commercial firms to which they belong, which firms pay taxes in the localities in which they are established, are not subject to any imposition on behalf of the general revenue; they may, however, be subjected to some municipal contribution by the states in which they travel.

Those, however, who may establish themselves in any place and sell their goods on commission are considered as commission-merchants (*commissarios*), and, as such, are liable to the charges mentioned in tables A and D of the regulations established by decree No. 9870 of the 22d of February, 1888.

CHILI, COLOMBIA, ECUADOR, AND PERU.

No fees or licenses are required.

MEXICO.

No fees are levied or licenses required by the Federal Government, but in certain states the local authorities require commercial travelers to notify their arrival and take out monthly licenses for the time they may be carrying on business in the state.

In the states of Jalisco and Nuevo Leon, for instance, commercial travelers, before being permitted to open their samples, have to pay $77.86 as a state, and $19.46 as a municipal, tax. It is a little lower in some states, as Coahuila, where the state charges $58.30 and the municipality the same as in Jalisco.

It is very probable that such taxes are levied wherever the lines of communication bring these agents in considerable numbers.

URUGUAY.

SUMMARY OF THE REGULATIONS IN FORCE AS TO COMMERCIAL TRAVELERS IN MONTEVIDEO.

Trade license law for 1889.

ARTICLE 1. During the financial year 1888-'89 the license tax, classed as specific and ad valorem, will be levied only on the handicrafts, professions, and branches of commerce and industry specified in the following articles.

ART. 2. Specific licenses will be issued according to the following categories and rates:

* * * * * * *

Seventh category.—Paying $100.

Decree for the purpose of carrying out the law of February 8, 1889.

ARTICLE 1. The license tax must be paid by the 15th of March next.

ART. 2. Handicrafts or branches of commerce and profession which begin to be exercised after the expiration of six or nine months of the present year will pay only one-half or one-quarter of the tax respectively.

* * * * * * *

ART. 12. Persons who neglect to take out a license at the due date, or who take out a license of less than the proper amount, or who make any alterations to the prejudice of the exchequer and contrary to the law, shall pay a fine equivalent to the amount of which the exchequer has been defrauded, besides the costs of proceedings.

* * * * * * *

ART. 14. Any person desiring to exercise any branch of industry or commerce or any handicraft or profession liable to the license tax must first obtain the permission of the chief of police and apply to the bureau of indirect taxes in Montevideo (in the other departments, to the provincial treasury) for the issue of the corresponding license.

* * * * * * *

ART. 16, paragraph 2. All applicants for licenses are obliged to state their names, nationality, and place of residence.

ART. 17. False declarations will render the applicant liable to a fine of from $20 to $200, according to the importance of the fact of concealment, when this does not affect the amount of the tax payable, in which case article 12 will be applied.

JAPAN.

There do not exist in Japan at present any special regulations with regard to commercial travelers. Under the existing treaties no foreigners are allowed to travel in the interior of the country for purposes of trade, and at the open ports—Tokio, Yokohama, Hiogo, Nagasaki, Hakodate, and Niigata—commercial travelers are allowed, in common with all other foreign traders, to pursue their calling within the limits of the settlements existing at these places, and are not obliged to pay fees or take out licenses.

MOROCCO.

No fees or licenses are required.

EGYPT AND PERSIA.

There are no regulations, and, presumably, no fees are levied.

SLATE QUARRIES OF ANGERS.

REPORT BY VICE-CONSUL BENNETT, OF NANTES.

Situated about 3 or 4 miles from the city of Angers and extending over an area of 10 or 12 miles square are the *ardoisières*, or slate quarries, of Angers. They are found in the communes, or townships, of St. Leonard, St. Barthélemy, Trelage La Poueze, Renage, and Noyant-la-Graviere. The larger number of these quarries (La Fresnaies et Trelage, La Paperie, Grands Carreaux, Petits Carreaux, l'Hermitage, La Poueze, and Renage) are worked by a syndicate or commission; the others (Grande Maison, Pont Malembert, Misengrain, and Noyant-la-Gravière) are worked separately and independent of each other.

There are six or seven large open-air quarries; the others are under-ground galleries. Pont Malembert, an open-air quarry, employs 180 workmen and produces about 2,000,000 slates per month. La Paperie, a gallery at the depth of 170 meters from the surface, produces about 2,000,000 pieces per month. Les Petits Carreaux has a gallery at the depth of 145 meters from the surface; employs 330 workmen and seven machines. L'Hermitage, with 400 workmen, produces 3,100,000 slates per month. Les Grands Carreaux has a gallery 45 meters long, 50 meters wide at a depth of more than 100 meters from the surface, employs 400 workmen, 30 horses, and 6 machines, and produces per month 2,500,000 slates. La Poueze employs 80 workmen and produces 500,000 slates per month. La Grande Maison has a monthly production of about 1,500,000 slates. Taken altogether, these quarries employ about 3,000 workmen and 200 children, and they have an annual production of 160,000,000 pieces. The value of the total annual production is $700,000.

The slate extracted from these different quarries is of two distinct kinds—the ordinary, of which the price varies, according to the size, from 60 cents to $7 per 1,040, and the English slate, the price of which also varies, according to size, from $8 to $40 per 1,040.

The average wages of workmen is 60 cents per day; that of children, 20 cents.

H. D. BENNETT,
Vice-Consul.

UNITED STATES CONSULATE,
Nantes, December 4, 1890.

THE LINEN INTERESTS OF BELFAST.

REPORT BY CONSUL RUBY.

Believing that any information as to the linen industry will be of interest at this time, I have the honor to submit herewith statistical tables showing the extent of the manufacture of linens in Belfast and vicinity, together with wages paid, etc. In addition to what appears in tabulated form, I will add that authentic statistics for the year 1889 show that the average number of pounds of flax produced per acre is 475; average value of flax per ton, $225; tons of flax grown in Ireland in the year 1889, 18,812; imported for same period from Belgium, Holland, Germany, and Russia, 28,063 tons; exported for same period, 4,053 tons; leaving 42,822 tons as the amount used in manufacturing here for the year. The value of exports of flax products for the year was $25,000,000, of which more than 40 per cent. was shipped to the United States.

Table showing the number of linen factories and employés therein in Belfast and vicinity in November, 1890.

Employment.	Number of factories.	Spinning spindles.	Doubling spindles.	Power-looms.	Children working half-time.	
					Male.	Female.
Spinning	52	705,430	26,190		2,069	2,812
Weaving	78			20,696	47	124
Spinning and weaving	15	135,018	2,834	4,859	334	462
Not included in above	17					8
Total	162	840,448	29,024	25,555	2,450	3,406

Employment.	Males under 18, full time.	Females above 13, full time.	Males above 18.	Total number employed.		
				Males.	Females.	Total.
Spinning	3,073	18,253	7,135	12,277	21,065	33,342
Weaving	889	14,417	3,794	4,730	14,541	19,271
Spinning and weaving	764	7,123	2,037	3,135	7,585	10,720
Not included in above	65	854	215	280	862	1,142
Total	4,791	40,647	13,181	20,422	44,053	64,475

Average weekly wages of operatives employed in linen manufactures per week of fifty-six and a half hours.

Occupation.	Wages.
Men.	
Preparing and spinning:	
Overlookers	$8.08
Roughers and hacklers	4.50
Hackel setters	6.23
Sorters	5.61
Bobbin carriers	3.36
Bundlers and driers	4.13
Yarn storemen	4.13
Weaving:	
Teuters or tuners	9.11
Beamers	4.62
Dressers	7.21
Lads and boys.	
Preparing and spinning:	
Roughers	2.73
Sorters	1.58
Bobbin carriers	1.50
Yarn counters	1.86
Weaving:	
Teuters' apprentices	2.51
Women.	
Preparing and spinning:	
Line spreaders	1.78
Tow carders	1.80
Women—Continued.	
Preparing and spinning—Continued.	
Drawers and backminders	$1.66
Rovers	1.70
Layers	1.84
Spinners	2.04
Piecers	2.02
Doffing mistresses	2.43
Yarn counters	1.94
Reelers	2.16
Weaving:	
Warpers	2.73
Drawers-in	2.57
Weavers	2.29
Girls.	
Preparing and spinning:	
Line spreaders	1.39
Drawers and backminders	1.29
Rovers	1.50
Layers	1.62
Piecers	1.60
Doffers	1.43
Weaving:	
Givers-in	1.17

SAMUEL G. RUBY,
Consul.

UNITED STATES CONSULATE,
Belfast, November 14, 1890.

DUTY CHANGES IN COLOMBIA.

REPORT BY MINISTER ABBOTT, OF BOGOTA.

The Colombian Congress has made certain changes in respect of the duties upon the products of Ecuador imported through the custom-house of Ipiales. By article 5 of the same law the duties upon all importations through the custom-house of Tumaco are reduced 25 per cent. from existing rates. The latter provision only is of interest to our merchants.

The law takes effect in ninety days from October 21 last, and the diminution is gradual, extending over a period of ten months in decimal proportion, according to article 205 of the constitution.

JOHN T. ABBOTT,
Minister.

UNITED STATES LEGATION,
Bogota, December 2, 1890.

THE FREE PORT OF BOCAS DEL TORO.

REPORT BY MINISTER ABBOTT, OF BOGOTA.

The Colombian Congress has placed the free port of Bocas del Toro upon the same footing as Panama and Colon in respect to commerce.

I inclose a copy and translation of the law. Reference may be had to inclosure 2 for a proper understanding of section 2, article 32, of the fiscal code referred to in the law herewith transmitted.

JOHN T. ABBOTT,
Minister.

UNITED STATES LEGATION,
Bogota, November 23, 1890.

LAW 33 OF 1890.

[Inclosure 1 in Minister Abbott's report.—Translation.]

The Congress of Colombia decrees:

ARTICLE 1. The free port of Bocas del Toro, in the district of the same name, is opened (*habilitado*) to the commerce of importation and exportation, and shall enjoy the exception which section 32 of the fiscal code has made as to the ports of Panama and Colon.

* * * * * * *

Approved November 7, 1890.

PORT REGULATIONS OF COLOMBIA.

[Inclosure 2 in Minister Abbott's report.—Translation.]

TITLE 3, CHAPTER I, OF THE CODIGO FISCAL OF COLOMBIA, WHICH WENT INTO EFFECT JANUARY 1, 1874.

* * * * * * *

ARTICLE 8. The custom-houses of the Republic have for their object the administration of the imposts which the law establishes upon foreign merchandise at its importation and upon the vessels which may enter the ports.

ART. 9. The commercial operations, subject to the administration of the custom-houses, are classified as follows:

(1) Importation, which consists in the introduction of foreign merchandise for the consumption of the Republic.

(2) Exportation, which consists in sending its products from the Republic to foreign countries.

(3) Transit, which consists in the passage of foreign merchandise through the territory of the Republic to another country.

(4) Coasting trade (cabotage[*]), which consists in the traffic which is carried on by sea, in foreign merchandise lawfully imported which has paid the legal duties, between the ports of entry of the Republic.

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[*] Colombian laws divide what is known to our system under the general term "coasting trade" into cabotage and *el commercio costanero*, as defined in clauses 4 and 6.

(5) Deposit, which consists in storing foreign merchandise introduced for transit or re-exportation in the warehouses of a custom-house while these operations are being carried into effect.

(6) The coasting commerce (*el commercio costanero*) is that carried on by every kind of vessel between the ports of entry of the Republic and places not ports of entry (*no habilitados*) in the transportation of the products of the country or foreign merchandise which has paid the legal import duties.

ART. 10. Importation is permitted only into free ports and ports of entry (*habilitados*).

Transit is only permitted through free ports and the port of entry of Cucuta, with destination to Venezuela.

Deposit is only permitted, ordinarily, in the custom-house of Cucuta. In the other custom-houses it may be allowed by exception in the cases mentioned in article 81 of this code.

Exportation will follow the rules laid down in articles 195 to 205, 268 to 272 of this code.

The operation defined by article 9 shall be executed through legally constituted ports of entry, their execution being expressly prohibited through places not ports of entry (*no habilitados*), except as provided in the preceding article, and except, also, as provided by article 209, in respect to exportation.

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ART. 12. Commerce between free ports and places not ports of entry is absolutely prohibited. Consequently, both the ship or smaller boat which may carry merchandise from a free port to a place not a port of entry, as well as the merchandise carried, shall be subject to the penalties established by clauses 2 and 3 of article 326 of this code.

The captain of the ship or person (*patron*) in charge of the smaller boat, his accomplices, aiders, and abettors (*encumbredores*), shall each be fined, by competent authority, $200 and imprisoned from two to four months.

This penalty shall be inflicted, not only when the boat may be surprised loading, unloading, or carrying merchandise, but also when, after such proceedings have taken place, the act has been denounced before some national employé and fully proved in a judicial trial.

ART. 13. Merchandise is also declared to be contraband when found in a vessel surprised on the high seas, in a roadstead or inlet, or in a port where there is no custom-house, having one or more vessels about the same (of any size or description), or tied to its side which may not belong to the same, unless sent by permission of the chief officer of the custom-house.

The ship itself, the small boats around it (*embarcaciones*), the captain, master, and his accomplices and aiders shall be subject to the penalties established by article 12 of this code.

ART. 14. Commerce of the coasting trade (cabotage) and coasting commerce (*costanero*) with foreign merchandise from places not ports of entry to ports of entry is also prohibited.

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ART. 15. Coasting trade (cabotage) is also prohibited in vessels which carry merchandise for importation or exportation.

ART. 16. [Contains a list of the ports of entry, which includes no place on the San Blas coast.]

ART. 17. [Contains a list of free ports, in which no place on the San Blas coast is included.]

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ART. 22. Commerce from free ports to ports of entry shall be treated as foreign commerce.

ART. 23. There shall be a custom-house in every port of entry.

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ART. 32. The executive power is permanently authorized to establish the following regulations:

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(2) To permit or prohibit importation of foreign merchandise into the ports or territories which existing laws may have declared free, except the ports of Panama and Colon.

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(5) To establish the formalities to be observed in free ports and in ports and territories which are not free, in order to prevent smuggling.

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(10) To prohibit re-exportation or coasting trade (cabotage) by the same vessel which brings the merchandise, unless said acts may be done in a different voyage from that in which the importation was made.

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ART. 51. When it happens that any document certified to by a consul is not in the prescribed form, said functionary is liable to a fine equal to double the fee for said document.

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ART. 302. All foreign merchandise may be carried from one port of entry to another, or from a port of entry to a place not a port of entry on the sea-coast, after the import duties have been paid or secured on said merchandise.

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ART. 304. Permission to load and proceed from one port to another must be in writing from the chief customs officer, who shall take into account the prohibition of article 202, and after a visit and thorough inspection of the vessel's hold.

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ART. 316. The provisions of articles 303 to 307 and of 310 are extended to vessels carrying foreign merchandise imported into ports of entry (*habilitados*) destined for ports on the coast not ports of entry (*no habilitados*) for foreign merchandise.

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ART. 325. The offenses connected with the commercial operations of custom-houses are enumerated in the various preceding articles, and also in the following:

* * * * * * *

(3) The discharge, loading, or transportation of foreign merchandise for coast trade, either for cabotage or for re-exportation, made at places not ports of entry, or at hours not authorized, or without the proper documents.

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ART. 331. When deposits of foreign merchandise are discovered in houses, huts, ranches, or other places on the coast which may be suspected on account of their proximity to a port, such merchandise shall be dealt with as provided for in section 2, article 325, unless its legal introduction can be established.

AMERICAN TRADE IN NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

From time to time this consulate is in receipt of letters asking, "How can the business firms in the United States increase their trade?" This is a broad question and one not easily answered.

Much could be done by the firms in the United States toward increasing their business with Nicaragua, if they would study its wants and requirements. Articles suitable for Europe and the United States are not such as meet the demands of the trade here. The people of this country do not care so much for an elaborately finished implement of husbandry as they do care for a serviceable and durable article. The nature of the country, with its long seasons of rains and dry weather, makes it absolutely necessary that the tools in use should be such as can stand much moisture and dryness. This condition of weather demands that all tools composed largely of wood should be of thoroughly seasoned and hard woods. This matter, either through carlessness or indifference, has been entirely ignored by the leading firms of the United States.

In the matter of cloths and calicoes, the merchants of the United States have been very remiss. They make an article of this class that is too fine. When I say "too fine," I do not wish to be understood as meaning too good; such is far from my intention. The laboring class in this country do much of their work in the forests and in the field; consequently, they require clothing strong and substantial rather than fine. Again, the merchants have not considered the weight of the cloth that is proper to be worn in a climate of a tropical character.

Much of the trade of Nicaragua now goes to England and Germany. This is because the merchants of Nicaragua can get longer credits. A credit in England and Germany can run from eight to nine months, while in the United States a credit of only six months is given, and upon small amounts no credit at all. The business firms of the United States will have to modify their system in this particular, if they desire to extend their trade with Nicaragua. The merchants of Nicaragua are as reliable and upright a set of men as can be found in any country. The business failures in Central America are exceedingly small in number, which should alone be an inducement for United States firms to extend the length of time of credits. Nicaraguan merchants give as another reason, also, for trading with England and Germany that they can buy cheaper in those countries.

The goods that are sent from the United States to Nicaragua are not packed in a convenient size. In a country like this, where railroad facilities are yet in their infancy, much of the transporting is done with mules, so that packages of large bulk can not be carried. When the goods reach the large cities, they have all to be unpacked and repacked in small parcels.

For shipment to this country goods should be packed so that no one package would be over 100 pounds in weight. This weight enables the mules to be packed without trouble or difficulty. I am aware that this question has been written upon frequently, but I feel that it is one on which too much can not be said.

The business men of the United States could in no wise better advance their trade than by visiting Central America and coming in contact with her merchants. We can not accomplish much by the mere sending of circulars and catalogues. The system of drummers, which has met with such marked success in the United States, could well be adopted in Central America. It is not, however, advisable at the first to send promiscuous drummers into Nicaragua. A representative business man should visit the country—a man who is capable of studying and comprehending the condition of the people and the climate, and also the actual status of the trade of the country. It would be worse than useless to send a man here who has no knowledge outside of the mere question of buying and selling. After the requirements of the trade have been carefully studied, then let the drummer continue the work thus begun. A number of firms, who trade in different articles, might have one man represent them all.

The establishment of trade depots or sample houses would be a long stride in the direction of the extension of United States trade in this Republic and the others in Central America. These houses should not be in charge of a mere clerk, but a man capable of appreciating the question of trade as between countries.

American merchants must let Central America know that they desire its trade by coming here and seeking it; not only this, but must show that they are willing to give the same terms as can be secured in other countries. Nicaraguan merchants are anxious to trade with the United States, but say they can not do so until American houses meet them with the terms that they can obtain in England and Germany.

Another serious drawback to the extension of trade between Nicaragua and the United States is the want of sufficient steam-ship facilities. This is a matter that merits the careful and earnest study of the public men of the United States. Steps should be taken to place America's commerce on the same footing as is enjoyed by England and Germany.

These are some of the ideas that have come to mind in considering the question of the extension of United States trade in Nicaragua.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, November 14, 1890.

THE CARPET INDUSTRY OF GLASGOW.

REPORT BY CONSUL BROWN.

Upon receipt of your dispatch, I at once sent inquiries to all of the carpet-manufacturing firms in the district. To these inquiries I have received six replies, one of them from J. S. & S. Smith, manufacturers of patent ingrain art squares and yard wides, bed covers, rugs, and mats, giving, in part, information asked for. Each of the other five firms which sent replies declined to answer any of the inquiries.

The above-named firm of J. S. & S. Smith, which, by the way, is a most reputable one, being extensive manufacturers of the line of goods mentioned and carrying an immense stock of house furnishings in their warehouse in this city, answered the several questions as follows:

Number of looms, 82, of which 15 are power and 67 hand looms; of this number, 28 are used in the manufacture of rugs and 54 in manufacturing ingrain carpets, bed covers, etc.

All hands employed are at the works, and work fifty-six hours per week; and I may add that these are the usual hours of employment per week at all the establishments.

Manufactured goods are sent direct from the works to the warehouse, from whence they are sold, the product finding consumption both at home and abroad.

Monthly accounts are rendered.

It will be noted that the information is somewhat meager, and that the firm furnishing information is engaged in a very limited line of work upon which information is wanted. The information which I am able to give from personal observation is, of course, of a general character. I am utterly unable to give details. I send herewith the addresses of ten manufacturing firms; and I understand that there are one or two other firms which manufacture in a small way, but have been unable to learn any thing definite of them or their work.

The first six or seven firms are large manufacturers in their respective lines, and these firms, in the aggregate, manufacture nearly all lines of carpet known to the trade, from the lowest priced to the most expensive whole carpets. One of the largest manufactories is that of J. & J. S. Templeton, Glasgow, which for many years supplied carpets for the White House, and acknowledge no superiors. This firm alone employs many hundred hands, and manufactures nearly every style of carpet, ranging in price from 20 cents to $15 or more per square yard, and send their products to all parts of the world.

The industry—dyeing, spinning, weaving, etc.—is carried on unitedly in nearly all the works, and, as far as I can learn, in every case the dyeing and weaving is carried on by the same firm. The product is placed upon the market through agencies at home and abroad, and some of the leading firms receive orders direct from all parts of the world. I have been unable to learn on what terms sales are made, except that the terms are variable. I regret to say that I am unable to even approximate the number of looms in each establishment or in the aggregate, though in the aggregate, I may safely say, it will run up into thousands; and in all the establishments which I have visited a very large percentage of the looms in use are power-looms.

As to the number of persons who find wage employment in the manufacture of carpets, I am unable to give any definite answer, but several thousands in the aggregate, without doubt. As far as I have been able to learn, all are employed at the factories, none at their houses. While unable to give rate of wages paid at the factories in this district specifically, fortunately, by reference to my dispatch dated September 30, 1890, I am able to give the average of wages paid by the carpet manufacturers of the United Kingdom, which, it is fair to presume, does not materially vary from the wages paid in this district. From the report referred to, I find that the average yearly wages paid men, reduced to United States currency, is $336.75; boys, $105; women, $115.25; and girls, $87.50. This includes the full year of three hundred and eleven working days, making no allowance for holidays, sickness, or other causes preventing constant employment. From personal observation, I am satisfied that, of the above four classes, girls are employed in much the largest proportion. Comparatively few men are employed, the leading designers—those operating heavy machinery and engaged at the largest looms and heaviest work only—being men. Having asked one of the factory owners "why so many girls were employed and so few women and men," the answer was:

> First, the wages are less, and, with our machinery, power-looms, and improved methods, we find that girls learn much more quickly and adapt themselves to new methods more readily; the older women and men, too, do not like to give up the old ways, and their work, as a consequence, is less satisfactory.

As I understand it, these weavers and mill people generally are those whose "manner of living" is of the most ecônomical kind. Dr. Russell, the distinguished medical officer of the city, claims that "25 [24.7] per cent. of the populaton of Glasgow live in houses of a single apartment, and 45 [44.7] per cent. in houses of two apartments." It is fair to presume that very many of the wage workers above referred to live in such homes.

The following comprises the list of manufacturers, as per requirement of the circular: J. S. & S. Smith, 9 South York street, Glasgow; A. F. Stoddard & Co., Elderslie, Scotland; James Templeton & Co., William street, Greenhead, Glasgow; J. & J. S. Templeton, 128 Crown Point Road, Glasgow; James Sinclair & Co., Stirling, Scotland; Cuthbertson & Taylor, Kilmarnock, Scotland; Blackwood Bros. & Co., Kilmarnock, Scotland; Gregory, Thomsons & Co., Kilmarnock, Scotland; William C. Gray, Ayr, Scotland; Barbour, Anderson & Lawson, Brook street, Mile-end, Glasgow.

L. W. BROWN,
Consul.

UNITED STATES CONSULATE,
Glasgow, December, 1890.

DUTIES ON BUTTER IN THE FRENCH WEST INDIES.

REPORT BY CONSUL KEEVIL, OF MARTINIQUE.

For the information of exporters of butter and its imitations to the French West Indies, I have to report that the following schedule of duties on butter imported from other countries than France has gone into effect:

Butter, 15 francs per 100 kilograms; all imitations, 40 francs per 100 kilograms. In addition, there is a local, or "octroi," duty on butter and all imitations of 3 francs per 100 kilograms.

As will be perceived by papers sent by this mail, Canadian officials are on the ground making strenuous efforts to obtain the trade now enjoyed by merchants of the United States.

ALFRED B. KEEVIL,
Consul.

UNITED STATES CONSULATE,
Martinique, December 15, 1890.

AMERICAN TRADE IN JAMAICA.

REPORT BY CONSUL ESTES, OF KINGSTON.

As regards Jamaica's trade with the United States, there is an evident tendency to increase exports to the United States and reduce the amount of imports.

One short consular report can not give all the reasons for this. Exporters in the United States, I fear, are largely to blame, not being wide enough awake to the importance of this trade.

A country importing annually $8,000,000 worth of goods, with 800,000 people, situated at the very door of the United States and without manufacturing industries, is too rich a field for trade to be carelessly treated. The larger part of this trade now goes to Canada and to the United Kingdom and other European countries. If our exporters want this trade, they must come after it as they go after the trade of the great Northwest, *i. e.*, send good salesmen and make goods adapted to trade requirements as they find them after careful observations.

It is much easier to sell the goods that people want than to educate them to take what the importer may have on hand, and it is easier for him to change patterns than to alter a people's ideas of what they want. People here call for a high grade of goods, as a general thing, and are willing to pay for them, if they are made in the styles they like.

Boots and shoes manufactured for the Eastern, Middle, or Western States are not suitable for Jamaica; they have a style peculiar to themselves. Buggies and carriages manufactured for the Western trade can not be sent to Jamaica. If carriage manufacturers of the United States want Jamaican trade, they must first find out what styles are wanted here and what goods will sell best.

Manufacturers should also handle the trade direct or employ commission men who, they feel assured, are not inimical to American goods. Much trouble and dissatisfaction has been caused by the failure to select agents with caution.

The unequal tariff is, undoubtedly, another reason for this tendency. Practically every thing going from Jamaica to the United States is free of duty, and, on the other hand, nearly every thing the United States sends to Jamaica is subject to heavy duty.

The only articles of export from Jamaica that are subject to duty on entering the United States are rum and oranges. Of imports from the United States, meats of all kinds, wheat, corn, oats, and flour seem to fare the worst. The leading items in this heavy tax are $2 a barrel on flour, $3.75 on all salt meats, 18 cents per gallon on kerosene.

For a clearer understanding of the amount of exports and imports of any one article and the tariff charges, I will refer to my report of July 30, 1890, published in the August number (119) of the CONSULAR REPORTS.

While it is now too late to enter any goods for exhibit in the exhibition to open here January 27, 1891, I would urge upon manufacturers and exporters the advisability of sending good men to represent them, prepared, where practicable, to show samples. Trade can and should be greatly increased between these two countries.

I am credibly informed that some articles manufactured in the United States are sold by manufacturers and exported to England, and by jobbers there sold to merchants in Jamaica; thus an intermediate profit, which should accrue to the dealers of the United States, is lost to them.

I desire to call attention to only a few articles in which we should greatly increase our trade: Aerated waters, ale and beer, arms, bacon (largely brought from the United Kingdom). In carriages, I am sorry to note the fact that, while the United States has had almost all of this trade and might have it all, the United Kingdom and Canada show an increase and the United States a decrease. This is largely due to two causes: (1) Manufacturers in the United States, and especially those making the better classes of articles, do not make the styles mostly used and best adapted to tropical countries; (2) most of the carriages sent here have come through commission men and are a grade that manufacturers do not care to put their names on. Any manufacturer who will make a good line of buggies and carriages adapted to this trade of not lower than standard, or B, grade, with some fine, or A, grade work, and put them in the hands of reliable agents who will sell them on their merits, will build up a large and profitable trade.

Clocks, watches, and jewelry can all be sold here at good prices; also, drugs and medicines.

The cotton manufacturers of the United States get almost nothing from the Jamaica trade. There is no one article that is more expensive and harder to obtain in Jamaica than ordinary house furniture, and a little attention to this trade will secure it nearly all for furniture men of the United States.

Among other American goods which can be introduced here are fish and fish products, glassware, groceries and confectionery, haberdashery and millinery, musical instruments, condensed milk.

The trade in hardware and cutlery with the United States is very small, yet there are many hardware and cutlery specialties that are produced cheaper and better in the United States than elsewhere.

The trade in boots and shoes and leather goods generally is greatly increasing on the island, and is bound to increase more rapidly in the near future; and, while the United States has been gaining, it has not yet secured more than about 20 per cent. of the trade.

Machinery of all kinds, and especially sewing-machines, should be shown during the exhibition.

Shingles and the cheaper grades of siding, flooring, and wainscoting could be sent here with good effect. Sash, doors, panelings, moldings, etc., of standard sizes and patterns, and especially mill-made houses ready to fit together, could be introduced here to a profitable trade.

There are abundant transportation facilities between the two countries, and freights to Jamaica from the United States should be contracted at very low rates, as there is a great deal of competition, and steamers are much lighter loaded to than from Jamaica.

The regular lines of steamers now running from New York here are the Atlas Steam-ship Company, Anchor line, Honduras and Central American Steam-ship Company, J. W. Kerr & Co., E. J. Wessels & Co.; from Boston, the steamers of the Boston Fruit Company; and from Philadelphia, the Philadelphia Fruit Company, besides the Plant line just established from Tampa.

W. R. ESTES,
Consul.

UNITED STATES CONSULATE,
Kingston, November 26, 1890.

COMMERCE OF LIVERPOOL.

REPORT BY CONSUL SHERMAN.

IMPORTS.

Statement showing the imports at the port of Liverpool during the year ended December 31, 1889.

Articles.	Quantity.	Value.
Animals, living:		
Oxen, bulls, cows, and calves ... number	169,450	
Sheep and lambs ... do	52,659	
Horses ... do	236	
Bones, except whale-fins ... tons	25,440	
Caoutchouc ... cwts	188,806	
Chemical manufactures		$1,978,415
Cocoa ... pounds	2,420,546	
Coffee ... cwts	48,474	
Corn:		
Wheat ... do	15 295,191	
Barley ... do	630,860	
Oats ... do	81,206	
Peas ... do	445,220	
Beans ... do	829,837	
Indian corn ... do	11,121,108	
Wheat meal and flour ... do	2,830,079	
Cotton:		
Raw ... do	15,646,007	
Manufactured		1,150,775
Drugs—Peruvian bark ... cwts	1,539	
Dyes and dyeing stuff—indigo ... do	7,548	
Dyes obtained from coal-tar		26,820
Farinaceous substances		775,770
Flax ... cwts	114,713	
Fruit:		
Currents ... do	394,069	
Oranges and lemons ... bushels	2,734,091	
Raisins ... cwts	170,438	
Apples, raw ... bushels	1,197,049	
Unenumerated ... do	437,740	

Statement showing the imports at the port of Liverpool, etc.—Continued.

Articles.	Quantity.	Value.
Glass of all kinds.....cwts	100,263	
Hemp.....do	475,191	
Hides, raw.....do	249,911	
Hops.....do	54,206	
Jute.....tons	17,450	
Leather.....pounds	33,007,733	
Leather gloves.....dozen pairs	159	
Linen yarn.....pounds	2,067,459	
Manures:		
Guano.....tons	777	
Phosphate of lime and rock.....do	51,273	
Unrated.....do	8,421	
Metals:		
Copper—		
Ore.....do	78,085	
Unwrought and part wrought.....do	21,854	
Iron—		
Ore.....do	64,668	
Pig.....do	1,498	
Bar.....do	6,087	
Iron and steel manufactures, etc.....cwts	244,277	
Lead, pig and sheet.....tons	11,602	
Pyrites of iron and copper.....do	260,123	
Tin in ingots, bars, slabs.....cwts	19,616	
Zinc, crude, and manufactures of.....do	176,307	
Oil:		
Train, blubber and sperm.....tons	2,624	
Olive.....do	4,450	
Palm.....cwts	1,001,812	
Seed.....tons	2,066	
Oil-seed cake.....do	76,047	
Onions.....bushels	1,009,206	
Painters' colors		$589,875
Paper of all kinds (except hangings).....cwts	76,505	
Petroleum.....gallons	23,825,854	
Provisions:		
Bacon and hams.....cwts	2,663,551	
Beef, salted and fresh.....do	1,113,702	
Pork, salted and fresh.....do	141,415	
Mutton, fresh.....do	302,081	
Meat, unenumerated, preserved.....do	200,691	
Butter.....do	103,267	
Margarine.....do	388	
Cheese.....do	780,367	
Eggs.....great hundreds	23,017	
Fish.....cwts	511,707	
Lard.....do	758,553	
Potatoes.....do	41,904	
Rice.....do	3,191,704	
Rags and other materials for paper making.....tons	67,027	
Saltpeter and cubic niter.....cwts	786,149	
Seeds:		
Clover and grass.....do	18,431	
Cotton.....tons	30,948	
Flaxseed.....quarters	231,787	
Rape.....do	1,257	
Silk:		
Raw.....pounds	23,389	
Manufactures		47,745
Skins—sheep and lambs', undressed.....number	1,804,890	
Spices—pepper.....pounds	432,865	

Statement showing the imports at the port of Liverpool, etc.—Continued.

Articles.	Quantity.	Value.
Spirits:		
Rum ... proof gallons	792,802	
Brandy ... do	427,977	
Geneva ... do	59,224	
Other unsweetened spirits ... do	327,021	
Straw plaiting for hats ... pounds	672	
Sugar:		
Refined ... cwts	450,087	
Unrefined ... do	5,553,363	
Tallow and stearine ... do	593,969	
Tea ... pounds	101,404	
Tobacco:		
Unmanufactured ... do	36,873,124	
Manufactured ... do	1,534,372	
Vegetables, raw		$378,040
Wine ... gallons	2,019,054	
Wood and timber:		
Hewn ... loads	207,915	
Sawn or split ... do	647,138	
Staves ... do	26,315	
Mahogany ... tons	12,679	
Wool:		
Sheep and lambs' ... pounds	72,407,794	
Goats' wool or hair ... do	9,990,661	
Woolen goods:		
Yarn ... do	114,448	
Rags ... tons	2,070	
Manufactures		470,295

EXPORTS.

Statement showing the exports at the port of Liverpool during the year ended December 31, 1889.

Articles.	Quantity.	Value.
Alkali ... cwts	4,877,323	
Apparel		$3,920,390
Arms and ammunition:		
Gunpowder ... pounds	4,619,900	
Fire-arms (small) ... number	143,691	
Of all other sorts		1,051,635
Bags and sacks, empty ... dozens	1,256,614	
Beer and ale ... barrels	106,792	
Books (printed) ... cwts	47,136	
Butter ... do	22,706	
Candles of all sorts ... pounds	2,529,600	
Caoutchouc, manufactures of		1,109,605
Cement, for building and engineering purposes ... tons	7,082	
Chemical products or preparations, including dye-stuffs		5,186,485
Coal, coke, etc ... tons	549,[illegible]	
Cotton yarn ... pounds	109,746,900	
Cotton manufactures:		
Piece-goods ... yards	3,915,718,300	
Of all other sorts		18,323,135
Earthen and china ware of all sorts		7,781,475
Fish—herrings ... barrels	94,659	
Glass of all sorts		2,741,515

Statement showing the exports at the port of Liverpool, etc.—Continued.

Articles.	Quantity.	Value.
Haberdashery and millinery		$3,993,885
Hardware and cutlery		6,809,950
Hats of all sorts ... dozens	352,592	
Jute:		
Yarn ... pounds	8,541,300	
Piece-goods ... yards	37,813,000	
Leather:		
Unwrought ... cwts	20,454	
Wrought—		
Boots, shoes, etc		2,052,810
Saddlery and harness		746,365
Linen:		
Yarn ... pounds	5,133,300	
Manufactures—		
Piece-goods ... yards	99,377,900	
Thread and unenumerated		4,232,215
Machinery and mill-work		27,159,235
Manure, chemical ... tons	55,332	
Metal:		
Iron—		
Pig, puddled, bar, angle, and wire ... do	252,376	
Railroad of all sorts ... do	290,809	
Steel—		
Unwrought ... do	33,953	
Of all other sorts, including manufactures ... do	622,423	
Copper—		
Unwrought ... cwts	79,759	
Wrought or manufactured, and yellow metal ... do	215,760	
Lead of all sorts ... tons	4,164	
Tin, unwrought ... cwts	32,334	
Oil-seed ... tons	8,956	
Painters' colors and materials		1,215,560
Paper of all sorts ... cwts	110,870	
Provisions, including meat		1,318,070
Salt, rock and white ... tons	582,905	
Silk:		
Thrown, twist, and yarn ... pounds	319,944	
Manufactures of all sorts		7,916,730
Skins and furs of all sorts		3,146,955
Spirits, British and Irish ... proof gallons	337,071	
Sugar, refined, and candy ... cwts	393,036	
Telegraphic wires and apparatus		109,320
Wool, sheep and lambs' ... pounds	7,831,400	
Woolen and worsted yarn ... do	1,618,700	
Woolen and worsted manufactures:		
Woolen coatings and stuffs ... yards	29,311,000	
Worsted coatings and stuffs ... do	105,158,200	
Flannels and carpets ... do	9,771,200	
Blankets ... pairs	581,432	
Of all other sorts		820,607
Yarn (alpaca, mohair, and other sorts unenumerated) ... pounds	621,500	

NAVIGATION.

Table showing the number and tonnage of vessels entered and cleared at the port of Liverpool during the year ended December 30, 1889.

ENTERED.

From—	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
Foreign countries and British possessions..	3,544	4,992,271	1,145	797,129	4,689	5,789,400
Coastwise	10,135	2,273,433	3,339	382,307	13,474	2,655,740
Total..	13,679	7,265,704	4,484	1,179,436	18,163	8,445,140

CLEARED.

To—	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
Foreign countries and British possessions..	3,046	4,408,769	1,018	738,259	4,064	5,147,028
Coastwise	10,377	2,750,165	3,196	398,482	13,573	3,148,647
Total..	13,423	7,158,934	4,214	1,136,741	17,637	8,295,675

THOS. H. SHERMAN,
Consul.

UNITED STATES CONSULATE,
Liverpool, December 30, 1890.

AMERICAN BEEF IN SWITZERLAND.

REPORT BY CONSUL CATLIN, OF ZURICH.

A successful effort has just been made to introduce American beef into Switzerland, and last Sunday one of the principal hotels in this city, the Bellevue, had on its bill of fare the unusual announcement, "Viande Américaine de Chicago."

Hitherto the beef supply of this section has been drawn, to some extent, from the immediate vicinity (cantons Thurgau and Schaffhausen), and also from Austria-Hungary (via Arlberg), Germany, and Italy (via St. Gothard). A suggestion having been made to the Swiss Butchers' Association, an influential body extending all over Switzerland and having some five hundred members, that there might be a profit in the introduction of American beef cattle on the hoof from one or another of the great sea-ports, it was determined to make the experiment. A committee proceeded to Antwerp and purchased one hundred and ten Chicago beeves from a cargo arriving there by the steamer *De Ruyter*, which left New York November 1. The cattle reached Antwerp on the 16th, and at 10 p. m. on the following evening were shipped in eleven through cars as fast freight for Basle, reaching here

(Zurich) on the 20th at 5.30 p. m. in good condition and within less than three weeks from New York. The round price paid at Antwerp was 75 centimes (15 cents) per kilogram, or about 7 cents per English pound. The freight for the entire lot from Antwerp to Basle was 4,400 francs ($849.20), which is rather higher than will be paid for subsequent shipments. The cattle found a ready market at once. Zurich took thirty; Basle, Bern, and St. Galle each twenty; and Winterthur and Brugg each ten head, and the beef was pronounced to be excellent in quality. It was sold off at the usual selling price (about 17 cents per pound), and proved quite inadequate to the demand which had been created by the news of the experiment being made. It is stated that the American beef could be delivered here at from 1 to 2 cents less per pound than the native Swiss beef can. The Austrian beef can be delivered at a cent or two cheaper still, but is said to be much inferior to the American meat in quality and flavor. Taken altogether, the results of the experiment have been extremely favorable, and, should there be no rise in the American market, it is quite probable the importation hither may become a steady and paying one. Any cattle dealers in America who desire further information in regard to the matter can obtain it by addressing Mr. C. Messing, No. 50 Lavaterstrasse, Enge-Zurich.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Zurich, December 1, 1890.

INCREASE OF SPANISH DUTIES.

REPORT BY CONSUL TURNER, OF CADIZ.

I have the honor to transmit a table showing the increase in the customs duties on agricultural products made by decree of the Queen Regent and published in the Gaceta de Madrid, the official paper of the Government, on the 25th instant. The provisions of the decree take effect January 1, 1891. The increase of duty on breadstuffs and provisions in the tariff schedule is of interest to United States commerce. Large quantities of these products now consumed in Spain come from the United States.

I might add that statistics will not reveal just what that quantity is, for dealers in these products buy them, not from the exporters of the United States, but almost entirely from English and other European jobbers. It has been my aim since coming here to encourage direct trade. I have succeeded in finding a representative for a large American meat-exporting house, and a direct trade in meat products has started. Three or four shipments of meats and lard have already been made by this firm direct to Cadiz, and every thing promises well for the enterprise. It will be easily recognized, however, just what the result on both direct and indirect trade in meat products will be when customs duties are increased from $3 to $10 per 100 kilograms on pork, bacon, hams, and lard.

I can not believe that such duties can be sustained. Under present conditions the struggle for bread and other sustenances of life is superlatively severe, and these duties will make it more so. No one who will examine the evidence can long doubt that the frightful mortality of Spain is largely due to a lack of wholesome food among the masses. Before this decree was affirmed few people of the working classes could find means to buy plenty of wholesome food; but, when it becomes operative, life and strength giving food in sufficient quantities will have passed beyond the reach of every laborer in Spain. He will only have it in sustaining quantities when the Government provides it in its efforts to ward off from an enfeebled class of people some such epidemic as cholera.

Table showing increase in customs duties on imports into Spain and Balearic Islands, to take effect January 1, 1891.

Articles.		Old rate.	New rate.
		Pesetas.	*Pesetas.*
Geldings above 1.47 meters in height	per head	128.30	180.00
All other horses and mares	do	31.50	135.00
Mules	do	19.60	80.00
Asses	do	8.40	12.00
Cattle	do	13.80	40.00
Swine	do	8.45	20.00
Sheep and goats, and animals not expressed	do	1.40	2.40
Salt and dried meats	per 100 kilograms	2.80	11.60
Pork, lard, bacon, and hams	do	15.00	50.00
Other meats	do	5.70	18.00
Rice:			
Not hulled	do	4.00	5.30
Hulled	do	8.00	10.60
Wheat*	do	4.32	8.00
Wheat flour	do	6.48	13.20
Other cereals in grain, except millet	do	3.20	4.40
Their flours	do	4.80	7.15

* This is also subject to transit and *consumo* duties.

All food supplies are subjected to *consumo* duties in addition to the general tariff.

R. D. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, December 29, 1890.

SHIP-BUILDING IN SCOTLAND.

REPORT BY CONSUL BROWN, OF GLASGOW.

Returns of ship-building for the year throughout the United Kingdom are just received. The output for 1890, in round numbers, is 1,271,000 tons, which is about 30,000 tons less than for 1889. The decrease falls far short of what was expected, even by the most sanguine, and is much less than could have been expected, taking into account the condition of the trade for at least four months preceding August 1.

So few orders were booked for that period that very general uneasiness was felt and in some cases notices of reduction of both force and wages were given. The unusually large number of orders booked in August caused three notices to be withdrawn. August orders were well supplemented in September and October and a large output for the year assured.

The decline noted above was not an all-around one, the Clyde and other Scotch yards showing a positive increase of production.

The following figures are given for the United Kingdom, showing total tonnage launched for the years 1889 and 1890:

Yards.	1890.	1889.
	Tons.	*Tons.*
Clyde	349,995	335,201
Forth	32,900	32,859
Dundee	24,494	18,311
Aberdeen	9,228	9,470
Tyne	235,567	281,710
Wear	197,482	217,336
Tees	127,741	110,436
Thames	17,000	8,000
Mersey	30,577	35,773
Barrow	24,665	26,847
Humber	9,217	12,689
Hartlepools	99,847	85,875
Government dock-yards	22,520	36,155
Blythe and other English ports	10,000	....
Welsh ports	2,500	....
Belfast	66,783	83,003
Londonderry	10,594	7,268
Total	1,271,110	1,300,933

The following figures show the total tonnage launched at the leading ship-building centers of the Kingdom, with the relative increases and decreases:

Yards.	Total.	Increase.	Decrease.
	Tons.	*Tons.*	*Tons.*
Clyde	349,995	14,794	....
Tyne	235,567	....	46,143
Wear	197,482	....	19,854
Tees	127,741	7,305	....
Hartlepools	99,847	13,972	....
Belfast	66,783	....	16,220
Mersey	30,566	....	5,196
Barrow	24,665	....	2,182
Dundee	24,494	6,183	....

To the figures given above for the Clyde and Dundee add Aberdeen, 9,228 tons, and the Forth, 32,900 tons, and we have a total for Scotland of 416,617 tons as compared with 395,841 tons in 1889, being an increase of

20,776 tons. Of this increase for Scotland, the Clyde contributes 14,794 tons; Dundee, 6,183 tons. The Forth shows a slight increase and Aberdeen a slight decrease. The firms on the Clyde reporting the largest output are: Russell & Co., Greenock, 70,370 tons (this firm also leads all others in the United Kingdom); the Fairfield Company, 33,705 tons; Messrs. D. & W. Henderson, 21,195 tons; Barclay, Curtis & Co., 19,472 tons; Charles Cornell & Co., 19,012 tons; A. Stephen & Sons, 16,841 tons; Messrs. Caird, 16,318 tons; Messrs. Denny & Bros., 16,236 tons; Messrs. Scott, 15,632 tons; and Messrs. J. & G. Thomson, 14,000 tons.

The nationality of the owners of these new vessels is shown by the following table, Germany again (as last year) leading:

Country.	Number of vessels.	Tonnage.
Germany	13	45,317
Norway	18	19,727
France	8	12,940
Belgium	4	7,153
Spain	4	5,806
Greece	1	1,223
Portugal	1	699
North America	6	9,838
South America	14	7,485
Australia	11	16,670
China	2	3,096
Japan	2	2,990
South Africa	3	1,060
Other countries	6	3,040
London	37	65,183
Liverpool	25	46,015
British Government	2	7,600
English ports	22	12,058
Glasgow	65	87,8[illegible]1
Scotch ports	42	49,406
Ireland	6	5,229

The total number of vessels launched in all of the Scotch yards during the year was 286. Of this number, 216 were steamers and 70 sailing vessels, a larger percentage of sailing vessels than last year. Of the steamers, 12 were of over 4,000 tons and 37 between 2,500 and 4,000 tons. Of the sailing vessels, 8 were between 1,000 and 2,000 tons, 22 under 2,500 tons, 1 under 3,000 tons, and 1 close on 4,000 tons. The percentage of large steam-ships is less than last year and of large sailing vessels more than last year. The percentage of steel vessels is said to be greater, if any thing, than last year, when it reached 97.2.

MARINE ENGINEERING.

As was the case in 1889, all the steamers contracted in Scotland this year have been supplied with machinery from Scotch engineering establishments, and these establishments have supplied, in addition, engines for many ships not built in Scotland.

The following were the largest producers: Messrs. J. & G. Thomson turned out engines with an indicated horse-power of 44,300; Fairfield Company, 41,950; James Howden & Co., 41,010; W. Denny & Co., 37,850 the output of each of the above-named firms being very much in excess of 1889.

THE OUTLOOK.

As indicating the future of the trade, the following table showing the work on hand in Scotch yards is given in detail:

Yards.	Companies.	Tons.
Goven	Fairfield Company	37,300
	A. Stephen & Son	14,500
	R. Napier & Son	14,250
	London and Glasgow Company	10,200
	Mackie & Thomson	1,200
Partick	A. & J. Inglis	12,100
	D. & J. Henderson	12,500
Whiteinch	Barclay, Curle & Co.	13,000
	Charles Connell & Co.	4,500
Clydebank	J. & G. Thomson (limited)	15,400
Renfrew	Lobnitz & Co.	....
	Simons & Co.	4,000
Yoker	Napier, Shanks & Bell	....
Paisley	J. McArthur & Co.	....
	Fleming & Ferguson	3,570
	John Fullerton & Co.	965
	Hanna, Donald & Wilson	300
Bowling	Scott & Co.	820
Dumbarton	W. Denny & Bros	14,000
	A. McMillan & Co.	5,600
	Murray Brothers	....
Greenock and Port Glasgow	Caird & Co.	13,800
	Russell & Co.	35,000
	Scott & Co.	12,000
	D. J. Dunlop & Co.	2,310
	John Reid & Co.	....
	Murdock & Murray	408
	Blackwood & Gordon	850
	R. Duncan & Co.	7,300
	W. Hamilton & Co.	9,000
Glasgow	T. B. Seath	1,000
	D. M. Cumming	109
	Alley & McLellan	435
Below Greenock	D. McGill (Irvine)	240
	Adrossan	1,000
	McKnight (Ayr)	1,060
Leith	Ramage & Ferguson	4,000
	Hawthorne & Co.	1,000
Grangemouth	Dock-yard Company	18,000
Kinghorne	John Scott & Co.	1,380
Dundee	Gourlay Brothers	4,030
	Thompson & Co.	4,058
	A. Stephen & Sons	3,000
Aberdeen	Hall, Russell & Co.	5,045
	Duthie & Co.	1,135
	Total	290,365

This large total is some 35,000 tons less than last year, and, while it represents eight or nine months' work, there is this difference as compared with last year: at the close of 1889 the yards were not only full, but a good deal of work was in prospect, inquiries remaining brisk; whereas it is said that orders now are few and far between. Then, freight had been reduced in some instances, but remained fairly firm; now, freights are in such a wretched condition that many owners are laying up their boats. It will be seen that the outlook is any thing but favorable; but, as was the case last year, the unexpected may happen and a marked improvement be the result.

L. W. BROWN,
Consul.

UNITED STATES CONSULATE,
Glasgow, December 26, 1890.

SABANILLA-MAGDALENA CANAL.

REPORT BY CONSUL NICKEUS, OF BARRANQUILLA.

Within the last thirty days the Government of the Republic of Colombia has conceded to Señor M. A. Fonsaca the exclusive privilege of constructing a canal from near Barranquilla, connecting the Magdalena River with the bay of Sabanilla. It is not known how long this canal will be, but not more than 10 nor less than 5 miles. Owing to the importance of this enterprise to commerce, I give herewith the salient points of the agreement:

(1) The canal will have a width of 20 meters (about 65½ feet) and not less than 3 meters in depth (nearly 10 feet).

(2) The Government grants an exclusive privilege for the period of forty years, during which time no other canal shall be constructed connecting the waters of the Magdalena River with Sabanilla Bay.

(3) The canal may be constructed from any point in Sabanilla Bay to any point on the said river lying between the station known as "Camacho" and the sea. The lagoons and streams lying within this region may be used for the purposes of the canal, but it is expressly understood that the mouth of the Magdalena River, known as the "Bocas de Ceniza," can not be utilized in the construction of the canal, nor can any work of any nature whatever be undertaken therein.

(4) The Government does not permit the exercise of any monopoly over the traffic of the canal, "since it is understood that the canal is to be constructed for the use and service of all and to afford greater facilities to the commerce of the country."

(5) During the term of said contract the canal company may collect a toll of transit for every loaded vessel which shall pass through it, not to exceed 25 per cent. of the present tariff of the Bolivar Railroad (the Bolivar Railroad tariff is from $1.25 to $5.40 per ton for a distance of 18 miles; this is as reasonable as the freight charges in the United States). Before

the canal is opened for transit the tariff of freight shall be approved by the Government, but it may thereafter be changed or modified by consent of the Government.

(6) The Government will have an interest of 20 per cent. in the net profits of the canal; but this does not imply any obligation on the part of the Government to contribute money or aid of any kind towards the construction of the canal or its equipment, or to respond in any manner for the results of the enterprise. No interest is guarantied on the capital stock by the Government.

(7) The 80 per cent. held by the owner or owners of the canal is not to be transferred to any foreign power or to any one whomsoever until the sanction of the Colombian Government is first obtained.

It will be observed that the contract fails to provide for the commencement of the work within any definite time, nor does it provide that the canal shall be completed within any specified time. Indeed, it would seem that the *concessionnaire* has forty years in which to construct the canal, during which time he may not allow any one else to construct one connecting these waters, and then, if he is so disposed, throw up the whole scheme; or he may fail to construct the canal, because it would interfere with the freights of the railroad running between Barranquilla and the bay of Sabanilla.

The people of this part of Colombia are much interested in the enterprise, because it would allow the fifteen steamers plying between this port and Honda, on the Magdalena River, to discharge their cargo at the port of shipment to the United States and Europe, instead of having to discharge at Barranquilla, 18 miles away, entailing the additional expense of reloading at Barranquilla aboard the railway cars and unloading again at the bay into lighters and from the lighters on board ship. All of this is, of course, a great expense to shippers, and would be avoided by the construction of the contemplated canal.

But the people of the United States are much more interested in the opening of the mouth of the Magdalena River, which would offer sailing vessels, as well as ocean steamers, a way into this port (Barranquilla) by way of the river mentioned. Some years ago, the merchants tell me, the Magdalena at this point was white with American sails, fifteen or twenty sailing vessels and many steamers being constantly at the wharves of this city from our country, unloading lumber, corn, ice, flour, salt, corned beef, pork, etc. Now, since the closing of the mouth of the river, not a single vessel of any description bearing the Stars and Stripes ever touches this port. There is not in this city of 30,000 people, through which the imports and exports of more than 3,000,000 people are made, a pound of either pork, corned beef, or salt nor a foot of lumber from the United States. And why? Principally, with reference to most of the articles mentioned, because it costs more to ship these goods 18 miles over the railroad from the bay of Sabanilla to Barranquilla than it formerly cost to get the same goods from New York, North Carolina, and Louisiana to Barranquilla by sailing vessels. I refer to the time when sailing vessels could come up the Magdalena River for more than 100 miles. However, if the contemplated canal shall be of sufficient depth to allow sailing vessels to pass, the people of our country will be considerably benefited thereby. It is with this view of the enterprise that I have deemed it of sufficient public interest to write the Department regarding it.

The map showing Sabanilla Bay, the Magdalena River, Barranquilla, and the country through which the proposed canal is to be constructed will be found on page 90, CONSULAR REPORTS No. 92, April, 1888.

JOHNSON NICKEUS,
Consul.

UNITED STATES CONSULATE,
Barranquilla, December 6, 1890.

FARM HOLDINGS IN GREAT BRITAIN.

REPORT BY CONSUL BRUCE, OF LEITH.

Some interesting figures as to the occupiers of land in Great Britain and the marked increase of arable land since 1870 are attainable from the recent agricultural returns of Great Britain for 1890. It is stated that the total number of returns from occupiers of land, on which the figures now submitted for Great Britain are based, is 577,841. This is the largest total yet reported, and compares with 574,840 returns in 1889, 570,206 in 1888, and 563,119 in 1887. These totals suggest a slight increase in the number of persons occupying land. This tendency is, indeed, once more the subject of special comment by the collectors, who frequently attribute their augmented returns to an extension of the process of subdivision of holdings which has been going on in recent years. The returns from owners of live stock who do not occupy land are this year 4,217, against 4,376 in 1889.

The cultivated surface of Great Britain recorded as farmed by its owners is 4,843,000 acres, against 4,852,000 acres last year, while that accounted for as in the hands of tenants is 27,925,000 acres, against 27,881,000 acres last year. The general decrease of owner-farmed land, which distinguishes the country as a whole, appears to be relatively more marked in Scotland than in England.

The area accounted for in Great Britain in the present table as under crops, bare fallow, and grass is 32,768,000 acres. This is an increase of 35,000 acres over the corresponding area in 1889. Although comparatively insignificant on the present occasion, this increase of so-called cultivated area has been an annual feature of these returns, and one which has occasioned considerable inquiry. The cultivated area reported on in 1890 is 666,000 acres greater than that returned in 1880 and 2,361,000 greater than that of 1870.

A material and continuous shrinkage of the land under the plow has now been in progress for the last eighteen years, accompanied by a continuous and still larger extension of the recorded grass area; but the arable area is still the greater of the two, if Great Britain be regarded as a whole. This is not quite the case, if the English figures be viewed by themselves.

Practically one-half of the arable area remains under grain, but the proportion of grain crops to arable land (itself, it must be remembered, a diminishing quantity) declined from 52 per cent. in 1870 to 50 per cent. in 1880 and 48 per cent. in 1890. Green crops have continued to cover nearly one-fifth of the arable area each year of the three. But the proportion of clover and grasses under rotation has exhibited, as has been repeatedly noted, a material increase. The ratio was 24½ per cent. in 1870, 25 per cent. in 1880, and 28½ per cent. in 1890. The proportion of bare fallow was 3½ per cent. in 1870 and 3 per cent. in 1890. The 8,033,000 acres now returned under corn crops compare with 8,075,000 acres in 1889. This total is 1,000,000 acres below the average grain-cropped area of the five years ending with 1880.

In only two years has the wheat area been smaller than it now is, viz, 1886 and 1887, when 2,286,000 acres and 2,317,000 acres were recorded. Most of the rise exhibited in 1888 has now been lost, and, comparing the present year's total—2,386,000 acres—with that of the mean for the five years ending with 1880, the decline is almost exactly 650,000 acres. If the comparison be made with a still earlier group of five years, 1871–'75—a period anterior to the recent depression—the loss is 1,140,000 acres, or nearly 1 acre in every 3. This decline in wheat growing has been long in progress. If the wheat area of the three years 1870, 1880, and 1890 be compared, it will be seen that the absolute decline on the first decade actually exceeded that which has taken place since, for 591,000 acres were lost between 1870 and 1880, against 523,000 acres since that year. The decline is, no doubt, attributable to the fall in the price of wheat, which is now not much more than half what it was in the years immediately following 1870.

The area under barley in Great Britain in 1890 was 2,111,000 acres. This is a decrease of 10,000 acres from last year's figures. The decline is visible only in Scotland and Wales, the English area being practically as before. The present surface under barley in Great Britain is greater by some 26,000 acres than in 1888 or 1887, but it is less than prevailed before those years.

Oats now cover 14,000 acres more than in 1889, or a total of 2,903,000 acres for Great Britain. In the last two years it is to be noted that the growing of oats has distinctly extended in England and notably in the eastern counties, and in a larger degree than the above figures show, since both in Scotland and Wales, especially in the latter, the oat area has been reduced.

The only noticeable decline in this section of the year's acreage is in the potato crop, of which 50,000 fewer acres have been grown, the total for Great Britain being 530,000 acres. The collectors agree in ascribing this uniform decrease to the low and unremunerative prices which were obtained for the large potato crop of 1889.

More turnips were apparently grown than in 1889 or 1888, but the total of this root in Great Britain remains below the average of 2,000,000 acres customary before 1887. The present year's return shows 1,948,000 acres.

In view of the attention recently called to the possibility, under certain circumstances, of again cultivating beet roots for sugar, it may be noticed that only 34 acres appear to have been grown in 1890. In 1871 a total area of 1,884 acres was returned as under sugar-beets.

The area left under bare fallow at the date of the collection of the returns (508,000 acres) shows a small decrease on the figures of 1889. Twice only, in 1887 and 1888, has the area thus returned been smaller. The area of Great Britain now accounted for under this head is, on the whole, less than in the years before 1884 by more than a third. An increasing area—more than sufficient to balance the decline in hops—is again reported as under small fruit, embracing strawberries, gooseberries, currants, etc., under this title. The surface returned as occupied in this way is 46,200 acres, or an increase of 4,300 acres. The practice of fruit growing is certainly extending both in England and Scotland, and the reports of the collectors contain references to the development of this branch of agricultural industry in new localities, and to the provision of local facilities for disposing of the produce by jam factories and arrangements for preserving the fruit.

Clover and rotation grasses show a small decline in acreage from the relatively high figure returned in 1889, the present area for Great Britain being 4,809,000 acres, against 4,877,000 acres last year. It is noteworthy that a large and material decline in the proportion of these rotation grasses kept for hay is reported this year, 184,500 fewer acres being so kept out of a total in itself reduced. If to this reduction there be added 1,208,800 fewer acres of permanent grass set aside for hay this year, hay must have been cut on nearly 400,000 fewer acres than in the immediately preceding season.

The record of live stock in Great Britain in 1890 is the most satisfactory presented for many years. The total number of horses kept solely for agriculture (981,000) shows, indeed, very little difference from previous years. There is apparent a small increase in England, with a decrease in Wales and Scotland. The number of cows and heifers in milk or in calf now returned is 2,538,000, a figure approached, indeed, in 1885, 1886, and 1887, but not met with before or since. The breeding stock now returned is thus greater by over 100,000 head than in 1889. The increase is apparent in every county in England except Middlesex, in every county of Wales, and in most counties in Scotland. The collectors attribute the improvement to a growing conviction on the part of farmers of profit to be made from the breeding of stock and an extended demand for milk. A decrease of other cattle over two years old is apparent in England and Wales. There is, however, an increase in Scotland. Some part of the decrease under this head would seem due to the earlier maturity of the stock sent to the butcher. Cattle under two years old exhibit a very remarkable and general increase in the present year, amounting to 279,000 head and bringing up the total to 2,532,000.

Compared with the average number returned in the decade ending 1880, the present figures exhibit an increase of over 300,000 head.

A very important increase is also exhibited in the number of sheep and lambs. The number of sheep of one year old and upward is returned as 16,757,000, or 894,000 more than in 1889, only one or two counties failing to join in the general advance. In lambs the increase is relatively greater still, a total of 10,516,000 head being enumerated, and the increase over 1889 being 746,000, or 7.6 per cent.

The total sheep stock of Great Britain (27,272,000) is now greater than in any year since 1879, a recovery of nearly 3,000,000 head being apparent since the losses of the period 1879–'82 left it with only 24,320,000 sheep in the last of these years. Two-thirds of this addition to the flocks, or an increase of 2,000,000, has occurred in the last two seasons.

WALLACE BRUCE,
Consul.

UNITED STATES CONSULATE,
Leith, December 31, 1890.

PUBLIC SCHOOLS IN SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

I inclose herewith a few statistics relating to public instruction in Spain. The first inclosure is a statement showing the amount owed to the public school-teachers of Spain for services rendered prior to June 30, 1890. In calling attention to this I might add that it is a non-interest-bearing debt, and for that reason is subjected to a heavy discount when placed on the market by teachers too poor to carry it.

The second inclosure consists of two tables, the first showing the number of public schools of Cadiz, number of pupils enrolled, and annual expenditures for school purposes, the second showing the number of teachers and their annual salaries.

I am informed that Cadiz is much in advance of her sister cities in the matter of public education, hence this last-mentioned inclosure becomes a fair mint for estimating the educational advantages of other cities.

There are no country schools in Spain, and those of villages are few and unimportant.

It will be seen by this inclosure that Cadiz, with a population of about 60,000, employs forty-five teachers, paying them salaries aggregating 78,225 pesetas and house-rent equivalent to 5,600 pesetas. It is thus seen that the average salary is equivalent to $335.50 per annum, the lowest being 500 pesetas, or $96.50, and the highest 3,250 pesetas, or $627.25.

The annual expenditure for material is 8,845 pesetas, or $1,707.08, and for rent of buildings 14,600 pesetas, or $2,817.80. The total expenditures for the schools of Cadiz reach annually the sum of 107,270 pesetas, or

$20,703.11. The number of pupils enrolled is twenty-four hundred and twenty.

The foregoing information was kindly sent to me by the city government in a communication dated November 13, 1890.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, November 13, 1890.

DEBT TO THE TEACHERS.

[Inclosure 1 in Consul Turner's report.—From La Dinastia of November 12, 1890.]

To-day the *direccion general de instruccion publica* publishes in the Gaceta a statement of the amount owed to primary teachers for work done previous to June 30, 1890. The total amounts to 9,108,837.36 pesetas, divided as follows:

Description.	To July 1, 1889.	Fiscal year 1889-'90.	
		First three quarters.	Fourth quarter.
	Pesetas.	*Pesetas.*	*Pesetas.*
Personal service	2,843,887.88	1,058,740.06	2,740,274.45
Material furnished	1,168,361.80	421,411.57	876,161.60
Total	4,012,249.68	1,480,151.63	3,616,436.05

PUBLIC SCHOOLS OF CADIZ.

[Inclosure 2 in Consul Turner's report.]

Table showing number of public schools, number of pupils, and annual expenditures.

Name of school.	Pupils enrolled.	House-rent furnished teachers.	Material for teaching.	Rent of building.
		Pesetas.	*Pesetas.*	*Pesetas.*
Normal	150	500	625	(*)
San Ildefonso	210	500	500	(*)
San Francisco	140		500	1,980
La Palma	200	500	500	1,500
Santiago	150		500	1,600
Santa Maria	200	500	500	1,250
San José	120	500	500	465
Adults	100		1,200	[illegible]
San Servando (for little boys)	200	500	750	(*)
San German (for little boys)	150	600	750	1,500
Normal (girls)	150	500	500	(*)
Concepcion	200		500	1,500
Santa Isabel	200		500	1,740
Rosario	150	500	500	960
San José	100	500	500	465
Total	2,420	5,600	8,845	14,600

*Owned by the public.

Table showing number of teachers and their annual salaries.

Name of school.	Classification of teachers.	Annual salaries.
		Pesetas.
Normal	1 director	3,000
	1 assistant	2,000
	1 conveyer	500
San Ildefonso	1 director	2,750
	1 assistant	1,100
	3 assistants at 750 pesetas	2,250
San Francisco	1 director	2,750
	1 assistant	1,100
	2 assistants at 750 pesetas	1,500
La Palma	1 director	2,750
	1 assistant	1,100
	3 assistants at 750 pesetas	2,250
Santiago	1 director	2,750
	1 assistant	1,100
	2 assistants at 750 pesetas	1,500
Santa Maria	1 director	2,750
	1 assistant	1,100
	2 assistants at 750 pesetas	1,500
San José	1 director	2,750
	1 assistant	750
Adults	1 director	2,750
	1 assistant	1,100
	1 porter	750
San Servando (for little boys)	1 director	3,250
	1 assistant	1,100
	1 porter	500
San German (for little boys)	1 director	3,250
	1 assistant	750
Normal (girls)	1 director	3,000
	1 assistant	1,725
	2 conveyers at 400 pesetas	800
	1 servant	125
Concepcion	1 director	2,750
	1 assistant	1,100
	do	825
	2 conveyers at 400 pesetas	800
Santa Isabel	1 directress	2,750
	1 assistant	1,100
	do	825
	2 conveyers at 400 pesetas	800
Rosario	1 directress	2,750
	1 assistant	1,100
	do	825
	2 conveyers at 400 pesetas	800
San José	1 directress	2,750
	1 assistant	1,100
	do	1,000
Total		78,225

THE NICARAGUAN CANAL.

REPORT BY CONSUL NEWELL, OF MANAGUA

I have the honor to inclose herewith the report of the commission designated to make the annual settlement of the Nicaraguan Canal.

WILLIAM NEWELL,
Consul

UNITED STATES CONSULATE,
Managua, November 14, 1890.

REPORT OF MESSRS. ROMAN AND SONNENSTERN.

[Inclosure in Consul Newell's report.—Translation.]

To the Minister of Public Works of the Government of the Republic:

HONORABLE MR. MINISTER: In discharge of the commission conferred upon us under date of the 4th of October last we have made the liquidation of expenditures incurred by the constructing company of the Interoceanic Canal of Nicaragua from the formal inauguration of the work on the 8th of October, 1889, to the 7th of last month, and with the present communication we have the honor to transmit to you the document in which the data relating thereto have been condensed in the form of a general account.

Immediately after our arrival at San Juan del Norte we had our first interview with the engineer-in-chief of the works of the canal, and we agreed that employés of the company should prepare the accounts, with their corresponding vouchers, in their separate order as recorded in the books, so as to be able to expedite their examination and verification, which we were to do at the proper time. Meanwhile we employed ourselves in visiting the works undertaken by the company up to that time, in regard to which we shall make you a brief report, based on our observations and the data furnished us by the engineer-in-chief and the division engineer, Mr. Davis, so that the Government may be able to appreciate the efforts of the company to carry out a work in which not only the professional honor of the engineers who have undertaken it is concerned, but also the good name of North Americans.

In all our excursions we were satisfactorily impressed by the advanced stage of some of the works whose initiation we witnessed about the end of last year and others undertaken afterwards. Now we note an impulse in the works, which ought to satisfy even the most exacting persons.

As soon as we were satisfied that we could visit the offices of accountability to examine the books and documents upon which the accounts are founded, we undertook that work, associated with the special auditor, Mr. Macrae, representing the company, a person than whom no more appropriate selection could have been made for such a delicate operation, as well because of his competence as for his affability in placing before us with promptitude worthy of the highest praise even the most insignificant details relative to the entries which in each specification show the expenditures made by the company.

The order and care shown by the accounts referred to are, Mr. Minister, indeed admirable, and, in order that you may form an idea of the operations, it was necessary to undertake to obtain in summary the figures of each department of expenditures.

In the examination of the vouchers we found deficiency of documents only in the following: (1) The purchase of the dredges and other material coming from Colon, (2) the acquisition of the navigation line of Lake Nicaragua and river San Juan, (3) the purchase of the Scotch dredge, and (4) the expenses of administration in New York.

But in these respects we were informed that the contract relating thereto is in possession of the company, and that, in regard to office expenses of the company, the data therefor had been recently received by mail.

In support of these assertions we have to record the following:

(1) That, of the seven dredges said to have been purchased in Colon, five are now in the bay of San Juan del Norte, one of which has been at work in the port of the canal since the 18th of October last.

(2) That a large part of the material mentioned in the inventory relating to the purchase of the dredges, and of which we inclose a copy, has been arriving by the steamers employed expressly in its transportation. Among the material there are objects of great value and in sufficient quantities to supply the workshops during the whole period of canal construction.

(3) In regard to the Scotch dredge, we were shown a letter in which the company are advised of its departure for San Juan del Norte on the 6th of October.

(4) That, in regard to the purchase of the interior navigation line, it is a well-known fact that the administration of that enterprise is in charge of the aforesaid canal company.

We had also to object to the adoption of a fixed rate (40 per cent.) of exchange between American gold and the money of this country, when for some time past the premium has been much lower.

Upon this point we were shown that for some time the premium was higher, and, to obviate the multitude of operations which would attend the conversion of gold to money of the country at a varying rate, the one rate was adopted as an average; and, on the other hand, the payment of $50,000 (gold) by the company to the Government in September last, in fulfillment of a clause in article 20 of the contract, was charged at 25 per cent., the then current rate.

As this was a secondary detail, inasmuch as it would in no case reduce the total amount of expenditures to less than $2,000,000 which the company was obliged to expend during the first year, we accepted this rate, with the reserve of making it known to the Government.

The engineer-in-chief exhibited to us an account which the New York office had remitted him, in which appear expenditures made there up to the 7th of October, of which he had no knowledge, amounting to $3,092,117.20 in American gold. But, as this account is not in detail nor authenticated, we merely mention it, submitting to the consideration of the Government the account which is the principal object of this report. But we deem it our duty not to pass over in silence the fact that the day after the closing of the accounts steamers arrived at the port of San Juan whose cargoes, according to the bills of lading, could not have been worth less than $100,000.

We proceed now to speak, although briefly, of the works carried out by the canal company up to the 7th of October last and of those in the course of execution.

ENGINEERING SURVEYS.

Those relating to the definite location of the route of the canal have terminated, and it only remains to finish those relating to certain details for the construction of dams and locks and some terre-pleins. The studies have also terminated for the location of the railway up to Ochoa, the installation of the aqueduct from Rio Pax, distant some 12 miles from the canal, and for the construction of a dam which will maintain the waters at an elevation of 115 feet above the level of the sea, a work which is considered of indispensable necessity for the supply of potable water in that region, in which that now used has not the requisite conditions required by public hygiene.

The hydrographic studies may be considered as terminated; but, owing to the frequent changes the bay of San Juan undergoes, it is necessary to maintain constantly a personnel to note the changes on the plans.

All of the studies have been made with care and verified more than once by different corps of competent engineers to ascertain with exactness that the smallest topographical details, which may contribute to the best solution of the problem of execution of the great work, shall not fail to be noted.

Their labors have been generally very difficult, as the operations have been made in dense and uninhabited forest, in transverse sections as much as 27 miles from the adopted line for the canal, and in many parts through swamps of 5 feet in depth.

BUILDINGS.

For the preliminary works and for the final works, the necessary buildings have been constructed for the lodgings of the employés and workmen, for warehouses, shops, and offices, the principal ones being those of Camp "Cheney," and the breakwater, Camp "Treat" of the railway, "La Fé," a large warehouse for provisions, the principal offices and buildings for the hospital service, whose cost, including that of the houses and ranches established at several points on the line of the canal, exceeds $80,000. Besides, they are constructing a building of 108 by 54 feet for a machine-shop, another of 52 by 28 feet for a blacksmith shop and foundry, and another of two stories, 57 by 49 feet, for lodging of employés. All these buildings are of selected lumber, of good construction, painted, and with iron roofings.

CLEANING OF STREAMS.

The principal obstructions to the free navigation of the lagoons San Juan, Silico, and Bernard, the river San Juanillo, the Deseado, and a number of creeks have been removed up to a distance of 30 miles from the port. This has been necessary in order to shorten distances and to facilitate operations and transportation of provisions and working material.

TELEGRAPHIC LINE.

One of the first works undertaken by the company is the installation of a telegraphic line between the principal offices situated near the mouth of the canal, on the Atlantic, and El Castillo, say some 60 miles distant. Later it will be placed, with better conditions and with the prospects of more satisfactory results, at the opening of the railway.

BREAKWATER.

Since December of 1889 the construction of a breakwater was commenced on the sea-coast for the protection of the entrance of vessels to the port of the canal, which the company makes out of a part of the area of what was once the bay of San Juan del Norte, near the old bar. Its length will be 1,900 feet, of which 800 feet are already finished; its width is 42 feet, and its height is 7 feet above the level of the ocean. The work is of wood creosoted in the proportion of 16 pounds of the oil to each cubic foot, and is very solid; the greater part of the pieces are 14 inches in thickness.

BANANA AND PASTURE RANCH.

At Camp Menocal they have made a plantation, which at present consists of only a few "manzanas" of land in grass and bananas. It is proposed to extend it when the works at Ochoa and on the locks are about to be undertaken.

CLEARING FOR THE CANAL.

In January of the present year the opening for the excavation of the canal was commenced, and there are now 11 miles cleared, with a width of 480 feet, through swamps of 64 inches in depth. On the axis of the canal and on some other points of the coast the company has made ditches for draining, and the result of this has been the drying up of a great portion of the swamp, which will soon permit the establishment of agricultural plantations. The clearing from Las Lajas to Brito has been contracted, and we know that the moment is at hand for undertaking this work.

RAILWAY TO OCHOA.

In June the railway from the port of the canal to Ochoa was commenced; 4½ miles are already finished, 5½ are ready to receive cross-ties and rails, and the material is on hand for 7 miles more, so that very soon half of the distance—to the point where the canal will follow the natural course of the river San Juan—will have been finished. One of the drawbacks to the progress of this work has been the gradings for a distance of 6 miles through marshes of 3 to 5 feet in depth.

For crossing the San Juanillo they have constructed a bridge of 180 feet in length by 10 feet in height, but the bed of the stream is so soft that it has been necessary to drive piles to the depth of 90 feet to reach a solid foundation for the flooring of the bridge.

The material for the grading has been taken principally from the mouth of the canal, where there is a portable steam excavator with a capacity of 1,500 cubic yards per day. Two trains of fifteen cars each are employed in transporting it over the railway in construction. Up to the 7th of October 280,000 cubic yards of grading had been thus deposited. Up to the present the cross-ties and all the timbers used have been imported from the United States, as there are no solid woods in that region.

The creosote cross-ties cost 80 cents (gold) each delivered at San Juan del Norte and the girders, cross-pieces, and piles for the bridges, breakwater, etc., cost from $2.25 to $75 each piece.

RAILWAY WHARF.

This is being constructed in a remarkably solid and stable manner on the right bank of the canal and in connection with the railway. It is of creosote wood, and will extend some 600 feet into the port to enable sea-going vessels and steamers to lay alongside. The works we saw undertaken during the last days of our stay at San Juan del Norte satisfied us that within a month from the date vessels of great draft, like the steamers of the American lines, will enter the port of the canal now in construction.

An extension of the railway to the breakwater across the lagoon San Juan is also being constructed. The object is to afford ready transportation of rock material for that work. A quarter of a mile of railway from the latter has already been made, and will be continued upon wooden piles in stretches of 10 feet until it reaches the mainland, where it will unite with the railway in construction. As this work is the subject of a special report, we shall say no more on the subject at present.

DREDGES, ETC.

Of the seven dredges purchased of the American company which for some years had contracts for dredging at Colon, five are at San Juan del Norte, and, of them, one, the *City of Paris*, commenced to dredge in the port on the 18th of October ultimo a channel of 120 feet in width by 20 feet in depth. On the morning of the 30th ultimo, the day of our departure, it had completed 1,500 feet of excavations and had removed 12,000 cubic yards of material. These apparatus are of 1,800 tons capacity and have engines of 600 horse-power. At the time we are writing two more dredges should be at work or nearly ready to commence dredging operations, and this month the others will be at work.

On the other hand, the American company has a Herbert suction dredge in the port and is awaiting the arrival of two others, with their respective tugs and launches, to carry out their contract of 1,500,000 cubic yards of dredging.

The material purchased in Colon comprises, as the inventory shows, dredges, tug-boats, lighters, machinery for the dock-yard, and a large quantity of material of every description for the works. It is being carried to San Juan by the steamers *Jones* and *River Mersey*, chartered expressly for the purpose, the former at $185 per day and the latter at £900 per month.

WAREHOUSES OF SUPPLIES AND MATERIAL.

There are deposited in the warehouses and in special storehouses an abundance of provisions, food, equipments, tools, and utensils and a great quantity of machinery and building materials for the works which will be undertaken hereafter. The articles are all of the first class, and of such condition that those intended for mechanical operations simplify, facilitate, and economize labor.

PERSONNEL EMPLOYED IN THE WORK.

The total number of laborers employed has varied from 400 to 1,900 daily and the officials and foremen from 125 to 300. At present there are 1,700 of the former and 160 of the latter. The engineers are mostly Americans and Spanish Americans. The officials and mechanics comprise persons of different nationalities, especially Europeans, and the laborers are almost wholly from the West Indies and the Atlantic coast of Central America.

LODGINGS AND MAINTENANCE.

The impossibility, up to the present, of contracting this service or of leaving to each individual to make his own arrangements, owing to the fact of the work being carried on in uninhabitable places, where there are no public means of communication, has obliged the company to provide lodgings and maintenance for their laborers and employés. Those who decline to receive these services as to-day established will receive an increase of their monthly pay and will be free to provide for themselves on their own account.

HOSPITAL.

This department might well be made the subject of a special study, so interesting are the conditions upon which it is established; but, for the purposes of this report, we will limit ourselves to state that the central hospital, which the company has established, constitutes a guaranty and an inducement for those coming to that coast to render their contingent of labor on the canal. There are several buildings of solid and elegant construction, with many departments and a numerous and efficient corps of service. The following data serve to prove our assertions: It is sixteen months since the hospital was established; in that period more than two thousand sick from different places have been admitted, and there have been fifteen deaths only. In the company's register twenty-six cases are noted; but six of these relate to invalids not engaged upon works of the canal, and five deaths were caused by accidents.

CONCLUSION.

It remains for us to mention a fact which shows clearly the success which follows the company in all the engineering works it has undertaken and the benefits which the inhabitants of that district are receiving. We refer particularly to the result obtained by the construction of the breakwater. The accumulation of sand and sediment of every description, which the river San Juan carries to the sea, is now carried by the surf to the right side of the breakwater; this gives it a perpetual stability, while on the left side there was a bank of sand which had obstructed for many years the flow of the waters of the river over the old bar. As the breakwater has been extended into the sea, the waters have opened a pass through the sand bank and have formed a navigable channel 600 feet in width and from 6 to 8 feet in depth. By this natural channel the steamer *Carazo*, the dredges, tug-boats, and small schooners now enter; and by the same channel, also, when deepened by the dredges, as is now being done in order to obtain a depth of 20 feet, vessels and steamers of large draft will enter in a short time, that place being the future entrance to the port of the canal on the Atlantic.

Such, Mr. Minister, are the data we have deemed it our duty to bring to the knowledge of the Supreme Government in fulfillment of the commission with which we had the honor of being intrusted.

We are, with all respect, your obedient servants,

(Signed,) J. A. ROMAN.
MAXMILANO SONNENSTERN.

AMERICAN PRODUCTS IN SWITZERLAND.

REPORT BY CONSUL ADAMS, OF HORGEN.

The Neue Zürcher Zeitung has recently made a careful computation of the values of imports into Switzerland from the United States in correction of the statistics published by the Federal Government. The latter are compiled from the custom-house entries, which, it is intimated, habitually undervalue imported goods.

The sources of correction are the statistics of Swiss manufacturers, which give, approximately, the proportions of raw material imported from different countries. It is known, for example, that, of the whole amount of raw cotton worked up by the Swiss mills, 65 per cent. comes from the United States, 25 per cent. from Egypt, and the remaining 10 per cent. from all other sources. Of leaf tobacco for cigars, etc., at least two-thirds came from the United States; of petroleum, at least one-half. Applying these proportions to the total importation from all countries, as given by the federal tables, the Neue Zürcher Zeitung obtains the following figures for the imports from the United States since 1885:

Articles.	1885.	1886.	1887.	1888.	1889.
Cotton	$4,303,900	$3,435,400	$4,882,900	$4,053,000	$5,519,800
Lard	317,485	530,750	594,440	409,160	601,195
Leather	289,500	289,500	289,500	289,500	289,500
Petroleum	752,700	907,100	926,400	829,900	733,400
Salted meat	69,480	113,870	130,275	101,325	197,825
Tobacco, leaf	752,700	675,500	675,500	733,400	714,100
Miscellaneous	212,300	384,070	475,745	304,940	258,620
Total	6,698,065	6,336,190	7,974,760	6,721,225	8,314,440
Total according to federal statistics	3,441,190	4,101,250	5,659,725	4,236,350	4,879,040

The following table gives the values of the principal imports from the United States for 1889, according to the Neue Zürcher Zeitung, compared with the total importation, according to the federal statistics uncorrected:

Articles.	Imports from the United States, according to Neue Zürcher Zeitung.	Total imports, according to federal statistics.
Cotton	$5,519,800	$8,488,140
Lard	601,195	630,338
Leather	289,500	2,066,654
Petroleum	733,400	1,482,433
Salted meat	197,825	256,076
Tobacco, leaf	714,100	1,076,301

It should be observed, however, that the federal statistics of the total importation are equally exposed to criticism, since they are compiled from the same defective custom-house declarations. The proportion of imports from the United States to those from all sources is therefore less than that shown by the last table.

It will be seen that the importations of American cotton, lard, and salted meat have increased since 1885. Leather is stationary and leaf tobacco has fallen off slightly. Petroleum has fallen off rapidly since 1887, owing to the competition of Russia. The importation of American grain, of great importance ten years ago, has nearly ceased, owing to cost of freights; its place is taken by the imports from Russia, Hungary, and the Danubian provinces. Among the miscellaneous articles imported are machines and hardware, meat extracts, cigars and cigarettes, animal hair, wood, vegetable oils, scientific instruments, dye-woods, dye-stuffs, etc.

The Neue Zürcher Zeitung concludes that the volume of the importation from the United States will remain about as it is for some years to come.

LYELL T. ADAMS,
Consul.

UNITED STATES CONSULATE,
Horgen, November 4, 1890.

COMMERCE AND INDUSTRIES OF GUAYMAS.

REPORT BY CONSUL WILLARD.

THE STATE OF SONORA.

This consular district formerly embraced the entire state of Sonora, but was divided during the past year into two consular districts, that of Nogales being formed of the northern portion bordering on the United States (Arizona) and extending south, approximating to the center of the state, its eastern portion bounded by the state of Chihuahua, and west by the Gulf of California and the Colorado River, comprising four political divisions, or counties, named Altar, Magdalena, Arispe, and Moctezuma. Its estimated area is 65,000 square miles, with a population approximating 50,000 souls. The remaining portion of the state forms that of Guaymas, embracing five political divisions, or counties, viz, Ures, Hermosillo, Sahuaripa, Guaymas, and Alamos, bounded on the north by the Nogales consular district, south by the Gulf of California, and east by the states of Chihuahua and Sinaloa; estimated area, 65,000 square miles; population, 100,000, more or less. With the exception of the state of Chihuahua, Sonora has the largest area of any one state of the Mexican Republic.

Nogales, on the frontier of Mexico and the United States, is the principal inland port of entry of the new consular district, and is at the termini of the Sonora and of the Arizona and New Mexico railways, which meet at the frontier.

Guaymas, on the Gulf of California, is the only port of entry of the consular district of Guaymas. This portion of Mexico draws a great part of its foreign supplies from the United States. Nogales being in direct communication by rail with the large commercial centers of the United States, a portion of the imports and exports to and from this consular district is received and dispatched at that place.

In transmitting a report of the commerce of this district I have made an approximate estimate as to the values of imports and exports entered at Nogales belonging to this consular district, and not, as in former reports, embodied them in that of Guaymas. The commercial data that I have obtained through the courtesy of the collectors of the custom-houses of Guaymas and Nogales show an increase of the imports in both districts over that of the past year, those from the United States being in excess, as mentioned in former reports, of those from all other foreign countries.

The commerce of the coast is in the hands of the Mexican, German, French, and Spanish houses, no American wholesale importing houses existing.

IMPORTS.

There has been no change in regard to the class and character of the imports during the past year. They consist of cotton and woolen goods, hardware, groceries, machinery for mines, and lumber, mining machinery being imported almost exclusively from the United States and lumber entirely so, as mentioned in former reports. Duties are levied on weights and measures and not on values, which makes it difficult to obtain, except approximately, the values of importations. The values given in the annexed table of imports are placed at the current value (*valor de plaza*) after being landed and dispatched through the custom-house. A portion of the goods and machinery brought here are reshipped to portions of the Lower California coast across the Gulf of California.

The greater portion of the imports to the southern part of this consular district (Alamos) are brought from the port of Mazatlan after the goods are entered and duties paid (consular district of Mazatlan), being sent from that port on coasting vessels to the small port of Agiabampo, the coasting port for Alamos.

The value of American goods is somewhat less than in the past year, from the fact that more have been sent from Guaymas. The value of American goods can be estimated at $100,000 and that of English goods at $150,000. The classes of European merchandise—calicoes, ginghams, lawns, etc.—sent to this coast generally contain less material and are of brighter colors; cheaper, but not of as good quality as American merchandise of the same class, and sell more readily in the mining towns and out-of-the-way places in the agricultural districts.

The values of the imports, as furnished me, are as follows:

From the United States	$1,472,431.87
From Europe	621,763.08
Total	2,094,194.95

The import laws remain without any change of importance to note during the year. It is expected that the Mexican Government during the coming twelve months, will issue a new tariff as to import duties.

Table showing the imports at Guaymas for the year ended December 31, 1890.

Description.	Quantity.	Value entered.
From the United States:	*Kilograms.*	
Agricultural and mining implements and lumber	117,366,704	$575,770.80
Drugs and perfumery	121,194	32,089.70
Dry goods (linen, cotton, etc.)	240,360	159,854.23
Glassware and crockery	173,997	57,885.64
Groceries	4,835,024	111,297.50
Hardware	652,684	166,439.00
Miscellaneous	238,749	49,095.00
Total	18,048,678	1,152,431.87
By rail via Nogales, not specified		*220,000.00
By Alamos via Mazatlan		100,000.00
Total from the United States		1,472,431.87
From Europe:		
Agricultural and mining implements	47,718	16,242.15
Drugs and perfumery	36,018	7,329.00
Dry goods (linen, cotton, etc.)	221,800	157,042.05
Glassware and crockery	203,719	27,770.28
Groceries	317,457	43,729.98
Hardware	242,282	17,320.12
Miscellaneous	205,843	42,329.50
Total	1,274,837	311,763.08
By rail in transit via Nogales		*160,000.00
By Alamos via Mazatlan		150,000.00
Total from Europe		621,763.08
Grand total		2,094,194.95

*Approximately.

The duties collected at Guaymas were as follows: On imports from the United States, $245,179.80; imports from Europe, $123,657.77.

The report from the consul at Nogales will give the imports of what was previously the northern portion of the Guaymas consular district.

EXPORTS.

The exports from this consular district, consisting of gold and silver bullion, silver dollars, oranges, cattle, hides, phosphates, and a few miscellaneous articles, are sent almost exclusively to the United States. Those destined for Europe pass through the United States in transit. There has been a slight decrease in the exports.

Cattle.—The exportation of cattle was very small in the first three quarters of the year, and during the last quarter has ceased, owing to the increased duty now charged on cattle entering the United States. Heretofore, being classed and invoiced as "cattle for breeding purposes," they were admitted free.

Ores.—Of gold and silver and silver-lead ores, the tonnage exported and values are about the same. The increased value of lead has compensated for the duty now placed on that mineral on entering the United States in ores combined with other metal. No mineral ores from this section have been shipped to Europe as yet, but are sent, as formerly, by rail to the reduction works in the United States.

Wheat.—No wheat was exported during the year to Europe, as was done last year, owing to the crop being less abundant, the excess over home consumption being sent in the shape of flour to the Mexican coast south.

Oranges.—There has been an increase in the exportation over that of the past year.

Phosphates.—From the islands in the Gulf of California (off the coast of this consular district) phosphates are shipped, as formerly, direct to Europe. A small quantity was sent during the year to San Francisco.

The total exports during the year from this consular district to the United States amount, approximately, to $1,342,758.99.

There have been no changes in the export laws during the past twelve months.

Table showing the exports from Guaymas for the year ended December 31, 1890.

Description.	Quantity.	Value, including costs and charges.
Bullion:		
Gold and silver ... bars	76	$410,061.70
Gold ... packs	8	37,130.04
Fish fins and cones ... do	59	271.00
Gum mesquite ... sacks	40	720.00
Garlic ... do	7	18.00
Hides:		
Cattle ... number	2,966	8,142.75
Tiger ... packages	1	45.00
Ores, silver ... sacks	4,540	32,750.00
Peas, split ... do	1	4.50
Phosphates ... tons	2,356	*35,000.00
Pearls ... packages	1	2,500.00
Plumbago ... sacks	771	1,115.00
Total		527,757.99
Ores, bullion, oranges, and cattle from Guaymas district, not specified		†350,000.00
Ores, gold and silver bullion, and coined silver dollars from Alamos, in Guaymas district, via Mazatlan		†500,000.00
Grand total		1,377,757.99

* Shipped to Germany direct; other European exports shipped indirectly through the United States.
† Approximately.

NAVIGATION.

The tonnage at this port for the year shows an increase of the Mexican, or national, tonnage, but there is a slight decrease in foreign tonnage. The United States tonnage is more than all other foreign tonnage combined. The total tonnage arriving and departing, according to the memoranda given me by the captain of the port, was 39,567 tons, which is by Mexican meas urement, giving an increase over that of the United States and England. There are no changes to note in the navigation laws. All foreign flags are placed on the same basis, without discrimination as to nationality.

There is one line of steamers from San Francisco to this port, touching, going and returning, at the intermediate ports of Ensenada, San José del Cabo, Mazatlan, and La Paz. The steamers of this line make monthly voyages, and have no subsidy. The inward cargo consists of assorted merchandise and machinery; outward cargo, hides and miscellaneous articles.

Sailing vessels are few, and their inward cargoes are principally lumber from California and Oregon; outward cargoes, gypsum from San Marcos Island, in the Gulf of California.

There are no steam-vessels from Europe. The sailing vessels bring assorted cargoes of merchandise, and their return cargoes are phosphates from the Gulf of California, dye-woods, and ores from points outside of this consular district. There are four steamers under the Mexican flag engaged in the trade on the coast. The largest, the *Alejandro* (600 tons), makes semimonthly voyages to the coast ports of La Paz, Altata, Mazatlan, San Blas, and Manzanillo, carrying the mails under a subsidy of the Mexican Government. The sailing vessels are engaged exclusively in the coasting trade with the coast ports south, as there are no ports open to traffic north of Guaymas. As an inducement for Mexican vessels to engage in foreign trade, the Government allows a rebate of 2 per cent. of the duties on the merchandise brought from foreign countries under the Mexican flag; but no Mexican steamers or sailing vessels from this port are engaged in foreign trade. The lack of a commercial treaty between the United States and Mexico requires, under our laws, the payment of 10 per cent. duties on value of the cargo arriving in Mexican bottoms at our ports; besides, the payment of the regular duties on dutiable articles has operated against Mexican vessels making voyages to United States ports.

COASTING TRADE.

The trade between this port and those as far south as Manzanillo (north of Acapulco) is about the same as in the past year. The total values of the exports and imports will approximate $1,300,000. The exports are principally flour, cotton in small quantities, and coal-oil, which comes in transit from the interior of Mexico (from the refinery of the Waters Pierce Oil Company). The imports are sugar, coarse cotton, sheetings, *serapes* (blankets), cocoa oil, common palm-leaf hats, and salt. The salt from Carmen Island, in the Gulf of California, 110 miles from Guaymas, has been brought during the past year in large quantities to this port (in comparison with former years), and is sent by rail to different points along the Sonora Railway for mining purposes (used in the beneficiation of ores) and to the central part of Mexico. The salt sent by rail to the interior of Mexico passes through Arizona and New Mexico in transit to El Paso, Tex., and thence by the Mexican Central Railroad to the interior of the Republic. The supply of salt on said island is said to be almost inexhaustible. It is formed in a salt-water lake in the island by natural evaporation and is nearly pure, containing from 96 to 98 per cent. of sodium. A number of small vessels are engaged in delivering this article at different places on the coast and at Guaymas.

Table showing the navigation at Guaymas for the year ended December 31, 1890.

ENTERED.

Flag.	From—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
Mexican	Coast ports	99	18,518	177	4,884	276	23,402
American	United States and coast	19	9,926	8	2,083	27	12,009
English				1	856	1	856
German	Europe			3	2,932	3	2,932
Danish	do			1	368	1	368
Total		118	28,444	190	11,123	308	39,567

CLEARED.

Flag.	To—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
Mexican	Coast ports	99	18,518	177	4,884	276	23,402
American	United States and coast	19	9,926	8	2,083	27	12,009
English				1	856	1	856
German	Europe			3	2,932	3	2,932
Danish	do			1	368	1	368
Total		118	28,444	190	11,123	308	39,567

NOTE.—The above is by Mexican measurement furnished by the port authorities.

RAILWAYS.

The Sonora Railway is the only one in operation in this consular district. Daily trains with freight and passengers are run from Guaymas to Nogales, at which point it connects with the railway system of the United States. The earnings of the road, I am told, have increased during the past year.

The projected railway, called the Sonora, Sinaloa, and Chihuahua, from this port southeasterly to Topolobampo, in Sinaloa, thence across the Sierra Madre Mountains to Chihuahua, is still a project. A few miles of road-bed were graded in 1889; then work suspended, and has not been resumed. It is hoped that in the coming year construction will again be commenced and continued. The line of road passes over a country rich in agricultural and mineral products. A branch line of the before-mentioned road 100 miles in length is also projected from the main line near this port eastward to the coal-fields of Sonora. The construction is expected to begin during the year, which, if completed, will facilitate the transportation of mineral ores and other products from that part of the country, that to-day is carried on mules and by wagons.

The projected railway from Mazatlan coastwise northward to this consular district (mentioned in last year's report) remains in an apparent collapsed condition, as the line has not been surveyed.

MINING INTERESTS.

The quantity of mineral ores exported during the past year from this consular district is more or less the same as the preceding one. Those from the north and central part were sent to the reduction works in the United States; those from the south (Alamos) go generally to the port of Mazatlan (Sinaloa) and are there reshipped to Europe or the United States by vessels.

The concession granted by the state government to certain American citizens to erect smelting and reduction works has not been complied with, and Sonora to-day has no smelting and reduction works where gold and silver ores are purchased and reduced or where small mine owners can have their ores treated.

The only class of mines worked are those of silver and gold, but principally the former. Veins of copper, lead, iron, antimony, and deposits of cinnabar and coal are found in different parts of the district, but are not developed.

The coal deposits have been worked to a small extent to supply fuel for the steam works of the mining companies in the immediate neighborhood. This coal (anthracite) is said to be abundant and of good quality, containing from 80 to 90 per cent. of carbon. The veins, or seams, vary in thickness from 4 to 10 feet. These deposits can be reached from the coast over easy grades. The coal used by the Sonora Railroad is brought from Blossburg, N. Mex., at a cost approximating $12 per ton (silver). Steam vessels obtain their supply principally from San Francisco and from Mazatlan.

The plumbago mines, near the Sonora Railway, are being worked by an American company and the ores in small quantities shipped to San Francisco.

The cinnabar deposits have not been developed; only a few surface excavations have been made on the deposits, which, I am told, did not produce ores in the quantities anticipated.

Concessions of mineral lands, or zones, under the federal law of 1887, have not given the results that were expected as to the development of certain parts of the country known to be rich in minerals (gold and silver). Many of the persons who obtained concessions from the Government expected to be able to form companies in the United States or Europe who would furnish the capital necessary to develop the mines (the minimum sum to be employed is fixed by the law at $200,000); failing to do this, and not commencing work in the time specified in the concession, the same became null. Several of the mining concessions in this state, owing to this case, have become forfeited and invalid.

AGRICULTURE AND HORTICULTURE.

This branch of industry can be said to be almost entirely in the hands of the natives of the country. The staple products are wheat, corn, and beans, but little cotton or sugar-cane being grown.

The wheat crop has been an average one, but not as abundant as that of last year, when Sonora wheat was exported to Europe, yet sufficient for home consumption and to supply with flour the coast south.

Corn and beans gave fair returns, and at the time of harvesting corn sold at from 40 to 50 cents per bushel; beans, at $2.50 per bushel.

The orange crop was in excess of that of last year, as young orchards are producing fruit. The business of cultivating oranges in Sonora for shipment to the United States dates back to 1883, after the completion of the Sonora Railway. It is estimated that 30,000 boxes were shipped, principally to Kansas City and Denver, each box containing an average of 150 oranges. They are generally sold on the trees to dealers, this year at from $6 to $7 per thousand (Mexican silver).

Grapes, lemons, olives, and figs are grown for home consumption only; but, if attention were paid to their culture, they would become one of the industries of the state, as the conditions of soil and climate of half of this consular district are favorable to their growth and cultivation.

POPULATION.

During the past year there has been no material increase in the population. The last census placed it at 150,000, approximately. The consular district of Nogales being formed out of the northern portion of the state, as mentioned, covering four political divisions, or counties, reduces the population of this consular district of Guaymas to about 100,000 people.

The resident foreign population does not exceed 1,400. American residents comprise about one-half, and are almost exclusively employed in mining pursuits. The Chinese population increased slightly during the year, and is estimated at 210, against 170 last year. In the second quarter there were landed at this port 252 Chinamen, with the object (as facts afterwards proved) of passing through in transit to the United States. The attempts made by these immigrants to cross the boundary line into Arizona were frustrated by the vigilance of the United States officials along the frontier, and arrests were made from time to time. In July these immigrants commenced to depart from this consular district by steamer from this port to Ensenada, Lower California, Mexico (south of San Diego), and to the Mexican coast south. From July to the present time 155 have departed; adding to these 57 arrested in Arizona after crossing the border, makes 212, deducted from the 252 arriving, as mentioned, leaves 40 to be added to the 170 here in the beginning of the year, leaving 210 as the number, approximately, left in Sonora, of which 165 are in the Guaymas consular district employed in the shoe factories, rough clothing (which they now control), laundries, and gardening. This class of immigrants in Sonora do not seek employment as house servants, as the wages they ask are in excess of that of the native servants, and up to this time they are not employed as laborers in outdoor work or at the mines for the same reasons. As there is a scarcity of laborers throughout the country, should the construction of the projected railways be commenced and continued, Chinamen or some other class of laborers must be brought to the country to supply the demand. Chinese immigration is not looked upon favorably by the laboring classes of the coast.

PUBLIC INSTRUCTION.

The public schools of Sonora are under the direct supervision of the state government, and in all the towns and villages primary schools are established that are open to all, without distinction of class or color. The expense of maintaining them is paid by the state, an appropriation being made annually for that purpose. No school books favoring any religious sect are permitted to be used. Semi-annual reports of the schools are made to the government. In the principal cities the modern system of instruction has been introduced with good results. The furniture for said schools was purchased in the United States. A high school, or college, has been established at the capital of the state (Hermosillo), and a public library, which is maintained by the state government.

COLONIZATION.

The colonization of the lands of the fertile valley of the Yaqui River, mentioned in my last report, is not as yet an accomplished fact, as there still remain bands of Yaqui Indians in open rebellion. The Federal Government still maintains at different places in the valley twenty-five hundred troops in garrison and in campaign in the surrounding mountains against those still in arms. Surveys are now being made for a large irrigation ditch to convey the water of the river on the elevated lands of the valley.

The colony established some years ago at Topolobampo harbor, bordering on the south of this consular district (Mazatlan), by Col. Albert K. Owen can not be said to have realized the expectations of the founder. Those colonists who remained there have been able to maintain themselves and keep up the organization, but under difficulties and privations. During the last quarter of the year two hundred new colonists have gone there well supplied with agricultural implements, seeds, etc., and, also, with a few fine-graded cattle. These colonists are from the United States, and, as a rule, are persons of education. The colony is established on a communistic basis.

CONCLUSION.

During the past year the sanitary condition has been good. The peace and quiet enjoyed for years past continues without fear of civil disorder.

By a comparison of the imports, it will be seen that those from the United States are double in value those from Europe, and that all the exports go to the United States. Before the year 1875 the bulk of the imports came from Europe; since then the greater portion (two-thirds) is received from the United States. In 1870 (from commercial data at this consulate) the imports and exports of this district amounted in value to about one-half of what it is in 1890. The effect of direct railway communication with the United States has, to a great extent, contributed to the material prosperity of this part of Mexico, as it gives rapid and regular transportation for the exports to a market and facilitates the importing of merchandise from the commercial centers of the United States, which formerly came around Cape Horn from Europe.

A. WILLARD,
Consul.

UNITED STATES CONSULATE,
Guaymas, December 31, 1890.

Cadiz-American steam communication.—The steamers of the Empresa Insulana de Navigação Company have not been able to call at this port as yet, owing to the strict quarantine regulations of the Portuguese Government. They are ready to commence, however, and are only waiting until the quarantine is suspended. The agents of the company are doing much to post the exporters of this district regarding American markets and customs regulations, and, I believe, the result will be increased exportations from this district.—ROBERT W. TURNER, *Consul, Cadiz, October 31, 1890.*

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 125.—FEBRUARY, 1891.

BRITISH AGRICULTURE.

REPORT BY COMMERCIAL AGENT REID, OF DUNFERMLINE.

The official report of the director of public statistics for the year 1890 has just been issued by the Government printer. As some of its statements may be useful, some care has been taken to collate such as seemed to claim the first attention or touched American interests. The reports of acreage and of live stock are based upon 577,841 returns from occupiers of land and from 4,217 owners of live stock not occupants of land.

CULTIVATION.

The statistics show that for Great Britain as a whole the cultivated surface, excluding all wood, mountain, and heath land, recorded as farmed by its owners was 4,843,000 acres, against 4,852,000 acres in the preceding year. Land in the hands of tenants was 27,925,000 acres, against 27,881,000 acres in the preceding year. The decrease of owner-farmed land is most marked in Scotland. In Wales ownership farming has increased. The reports are required from every separate holding of cultivated land of a quarter of an acre and upwards.

CROP AREA.

The area in Great Britain under crops, bare fallow, and grass was 32,768,000 acres, an increase of 35,000 acres compared with 1889. The cultivated surface reported for 1890 is 666,000 acres greater than that returned in 1880 and 2,361,000 acres greater than that in 1870. A scrutiny of the various reports seems to prove that the reclamation and fencing of land previously held as waste has been for some time in active and unintermitted progress. At the same time a large amount of land has been withdrawn for buildings, railways, and ship-canals.

SHRINKAGE OF LAND UNDER PLOW.

A material and nearly continuous shrinkage of land under the plow has been in progress during the last eighteen years. The grass area has increased in larger proportion.

Table showing arable and pasture lands.

Year.	Arable land.	Pasture.
	Acres.	*Acres.*
1870	18,335,000	12,073,000
1880	17,675,000	14,427,000
1890	16,751,000	16,017,000

Compared with 1889, the arable land of Great Britain in 1890 is less by 117,000 acres and the pasture greater by 152,000 acres, nearly the whole change being in England. The ratio of increase of clover and grass crops was 24½ per cent. in 1870, 25 per cent. in 1880, and 28½ per cent. in 1890.

CEREAL CROPS.

The 8,033,000 acres now returned under corn crops compare with 8,075,000 acres in 1889. This total is 1,000,000 acres below the average of the five years ending with 1880. This decline is chiefly in wheat, and in England only. The decline is attributable to the fall in the price of wheat—nearly 50 per cent. since 1870–'75.

Barley.—The area under barley in 1890 was 2,111,000 acres, a decrease of 10,000 acres from 1889. The decline was in Scotland and Wales.

Oats.—Oats covered 14,000 acres more than in 1889, or a total of 2,903,000 acres. The increase has been in England only. In Scotland and Wales a decrease is shown.

Potatoes.—The acreage of potatoes was 530,000, a falling off of 50,000 acres. The collectors agree in ascribing the general decrease to unremunerative prices in 1889, when the crops were large.

Hops.—The hop acreage continues to lessen, showing for 1890 an acreage of 54,555 as compared with 57,749 in 1889 and 58,494 in 1888.

FRUITS.

The growth of fruits is on the increase. The acreage reported is 46,200, an increase of 4,300 acres. Jam and preserving factories are multiplying. Orchards show an acreage of 202,300, the largest yet recorded. Market gardens have increased to 73,300 acres.

HORSES.

The live stock report shows 981,000 horses kept for agriculture and 394,000 unbroken horses. Horse breeding has been found profitable and is on the increase; 57,430 breeding mares are reported.

STOCK BREEDING.

An increased demand for milk and the profits of stock breeding have caused a large increase in the stock of sheep and cattle. The number of cows and heifers in milk or in calf now returned is 2,538,000—100,000 greater than in 1889. An increase compared with 1880 of 400,000 cattle under two years and a total of 2,532,000 are regarded as remarkable.

SHEEP AND PIGS.

The number of sheep of one year old and upwards is returned at 16,757,000, or 894,000 more than in 1889. In lambs the increase is greater still. These are stated as 10,516,000, the increase over the preceding year being 746,000. The total sheep stock of Great Britain (27,272,000) is now greater than in any year since 1879, a recovery of nearly 3,000,000 head being apparent since the losses of 1879 and 1882.

The cheapness of potatoes has led to a large increase of pigs, now numbered at 2,774,000, the largest ever before reached.

Table showing total live stock in Great Britain for the years 1870, 1880, and 1890.

Year.	Horses.	Cattle.	Sheep.	Pigs.
1870	1,267,000	5,403,000	28,398,000	2,171,000
1880	1,421,000	5,912,000	26,619,000	2,001,000
1890	1,433,000	6,509,000	27,272,000	2,774,000

RECAPITULATION.

The following table is a grouping of the whole report:

Description.	1890.	1889.	Increase.	Decrease.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Cultivated area	48,045,755	47,931,165	114,590	
Permanent pasture	27,115,425	26,816,092	299,333	
Arable land	20,930,330	21,115,073		184,743
Corn crop	9,574,249	9,637,354		63,105
Green crop	4,534,145	4,541,760		7,615
Clover	6,097,210	6,188,502		91,292
Flax	99,326	116,192		16,866
Hops	54,555	57,749		3,194
Small fruit	46,733	42,506	4,227	
Bare fallow	524,112	531,010		6,898
Live stock.	*Number.*	*Number.*	*Number.*	
Horses	1,964,911	1,945,386	19,525	
Cattle	10,789,858	10,272,765	517,093	
Sheep	31,667,195	29,484,774	2,182,421	
Pigs	4,362,040	3,905,855	456,175	

IMPORTS.

Wheat.—The mean wheat import of 1886–'89 has been 165 pounds per head, 39 pounds less than in 1882; but flour has risen from 21 pounds per head in 1861–'65 to 48 pounds per head in 1889. Of a total import of 58,551,887 cwts., 17,009,036 cwts. were received from the United States.

Dead meat.—The most striking of all imports is dead meat. The import of bacon and hams was six times greater in 1876–'80 than in 1866–'70, but has not increased since. The trade in imported fresh beef, mutton, and pork, which, even up to the end of 1875, did not furnish more than a single pound per annum to each family of five persons, has furnished 29½ pounds for each such family in the period 1886–'89 and in the single year 1889 reached 40 pounds a year to every such family in Great Britain. Of imports amounting to 8,469,653 cwts. of dead meat from all countries, the United States supplied 5,575,591 cwts.

Butter, margarine, and cheese.—The supply of butter and margarine has doubled in twenty years. Receipts of butter in 1889 were 1,927,842 cwts.; margarine, 1,241,690 cwts.; of which 110,292 cwts. of butter and 833 cwts. of margarine were supplied by the United States. Of 1,907,999 cwts. of cheese imported, 825,670 cwts. came from the United States. This trade has not increased.

Cattle and horses.—The year 1889 has seen the largest import of live cattle ever before recorded; 555,222 head have been received, of which 294,424 came from the United States and 84,588 from Canada. Of 677,958 sheep imported, 18,690 came from the United States. Imports of horses number 13,832, of which 236 came from the United States. These include stallions, mares, and geldings. The average value of these has increased from an average of £20 to £69.

JAMES D. REID,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Dunfermline, January 2, 1891.

VEGETABLE FIBERS OF TRINIDAD.

REPORT BY CONSUL PIERCE.

I beg to send herewith specimens of fibers from twenty-six different kinds of vegetable substances of this island, with the request that the same be presented to the Department of Agriculture with the compliments of Mr. Thomas St. Hill, of Port of Spain.

Mr. St. Hill, who for many years has given special attention to the study of the fiber-growing products of Trinidad, has favored me with the following description of these several fibers:

> Maholtine (*Abutilon peroplocifoleum*) grows wild in large quantities. It is easily cultivated by simply cutting down bushes and burning them and scattering the seeds of the plant. In seven months the plant will be ready to cut down for its fiber. One acre of good ground will produce about 5,000 pounds of stalk, and this stalk, reduced to fiber, will make about 800 pounds. The stalk grows from 8 to 12 feet, the skin, or bark, of which is stripped off and steeped in cold water eight or ten days, after which the green, watery substance is washed out, leaving a fiber 8 to 10 feet long.

White mahoe (*Sterculia caribæa*), like the maholtine, grows wild and may be cultivated in the same way, producing the same quantity of fiber by the same curative process. The fiber is whiter and more silk-like than that of the maholtine and is believed to be superior to it, though it has never been sent abroad to test its merit. A crop is reaped every seven months.

Cousin mahoe (a species of the *Sterculia caribæa*) grows wild over the island in great abundance and on the poorest soil; is very hardy, and, left alone, will not be stunted by the grass. The plant is only 4 to 5 feet high, and the fiber not so silky as that of the white mahoe. An acre thickly covered with it will yield about 6,000 pounds of stalk, making, say, about 600 pounds of fiber. It is a stalk fiber, and cured in the same way as the white mahoe. A crop is reaped every seven months.

Gumbo, or okra (*Abelmoschus esculentus*), is another stalk fiber, the plant growing 6 to 8 feet high and producing a fiber about the same length. It is more delicate than the foregoing, requiring to be weeded, but is cured in the same way. Cultivated on good soil, it will produce 4,000 pounds of stalks, yielding as much fiber to the pound as the maholtine or the white mahoe. The fiber of the gumbo, unlike those above mentioned, will not contain water, but throws it off like oil silk. A crop is harvested every seven months.

Gemove (*Malachra*), another stalk-fiber plant, grows wild in damp land. Like the gumbo fiber, it does not absorb water. It grows 4 to 5 feet high, and produces about the same as the cousin mahoe—6,000 pounds of stalk and 600 pounds of fiber to the acre. It is cured by hand, as those above. A crop is harvested every seven months.

The plantain (*Musa sapientum*) will produce from 5 to 6 pounds of fiber to each stalk. The stalks grow 8 to 9 feet high, and eight hundred of them may be produced on an acre of ground. The fiber is obtained by putting on two wooden rollers and rolling and squeezing the stalks to crush the watery pores, then steeping it in water eight or ten days, then putting it under the same rolling pressure with heavier weights. The fiber is then wrenched and put out to dry. It will dry in an hour or two, and is good for coarse bagging.

The banana (*Musa paradisiaca*) grows 4 to 5 feet high, produces 2 or 3 pounds of fiber to the stalk and eight hundred stalks to the acre. It is the same as the plantain, except that it is less in size and quantity, and is prepared in the same way. The crop is annual.

Ramie, or China grass (*Bœhmeria nivea*), grows very thick, and, once planted, sustains itself against other grass. After the first year it can be cut every six months. The stalk grows about 4 feet high and the size of one's small finger. It will produce an ounce of fiber to every square foot. The plant is from China, imported here for experimental purposes about three years age, and has not yet assumed any commercial importance.

Mahoe bord-la-mer (*Paritium tiliaceus*) does not grow inland, but on the sea-shore. It belongs to the *Hibiscus* family. It is a stalk fiber, but, unlike the foregoing, it branches, and the branches also produce fiber. It grows 8 to 15 feet high, and the curative process by hand is the same (excepting the plantain and banana) as that of the others mentioned. But the natives use it for rope. Each tree will produce about half a pound of fiber, and 1 acre can support eight hundred trees. It branches close to the bottom of the tree, and the fiber is usually 4 to 6 feet long. The crop is annual.

Red mahoe (*Sterculia caribæa*) grows wild on any soil of the island, produces about eight hundred trees to the acre, grows 8 or 10 feet and then branches. The stalk and branches are both used for fiber. The product is about 2 pounds of fiber to the tree. The fiber is obtained by the same process as that of the mahoe bord-la-mer. It is used by the natives for making rope, being even better for that purpose than the mahoe bord-la-mer, the fiber being from 8 to 10 feet long. The crop is annual.

Rucou, or annotto, an Indian plant from South America, used there for making hammocks, is a very strong fiber. One acre will support eight hundred stalks cultivated on fertile soil, and each stalk will produce about half a pound of fiber. The trees, or stalks, are 8 to 10 feet high and branch from near the bottom, both stalks and branches being good for fiber. The crop is annual.

Black sage (*Cordia cylendros*) is a small shrub about 6 feet high, outer bark black, and produces a very strong fiber used by the natives for making rope. The plant branches from the bottom, and both the stalk and branches produce fiber. An acre of ground will support sixteen hundred plants, and they will give one-fourth of a pound of fiber to each plant. The crop is annual.

Bois sang, or blood-wood, grows 25 feet high and branches out 8 or 10 feet from the bottom. When tapped, the tree emits a fluid resembling blood, which produces a red stain. Both stem and branches produce fiber. About six hundred trees may be produced on 1 acre, and each tree will produce 2 or 3 pounds of fiber, which is used here for making rope. The fiber varies from 4 to 6 feet in length, is quite tough, and would doubtless make a superior twine for bagging. It is cut and planted every three years.

Bois ceip (*Oreodaphne cernua*) grows 25 or 30 feet high, has a thick bark, the fiber being between the outer bark and the wood of the tree. The fiber is very strong, stands water well, and would be good for twine making. An acre of ground will produce four hundred trees, and each tree will produce 2 or 3 pounds of fiber, the length of which is usually 4 to 6 feet. A crop is harvested every three years.

Balizier (*Hilicomia*) is a wild plant, grows on cool soil, and its presence indicates superior land. The process of curing or obtaining the fiber is the same as that of the plantain or banana. The blades, which resemble the blades of the plantain, produce the fiber; but the blades grow from the roots of the bush like a pine-apple, and they are 6 to 10 feet long. One acre will produce about ten thousand blades, and each blade will produce half an ounce of fiber. It is a coarse fiber, not so strong as the other fibers mentioned, but would be good for door mats and similar purposes. It is reaped annually after three years.

Cacao (*Theobroma*) is cultivated for its valuable fruit; but the tree, which grows 15 or 20 feet high, is trimmed annually in the spring of the year, and the branches of each tree thus trimmed off will produce half a pound of fiber, which varies from 3 to 5 feet in length. It is strong and used as rope for making hammocks. It is cured, as stated, like the mahoe.

Gumbo misse, or African okra (*Abelmoschus moschatus*), is cultivated and cured the same as the *Abelmoschus esculentus*, but the stalk is darker and the fiber darker and coarser. The fiber, too, is not so long—only 3 to 4 feet—but as much stalk and fiber can be produced to the acre as of the *esculentus*. It does not absorb water, and it is good for rope and twine. A crop is reaped every seven months.

Bois l'ome (*Guazuma ulmifolia*) is a straight tree. At a distance of 8 or 10 feet up the body of the tree five or six branches will shoot out in a circle round it, and from this point to the top of the tree encircling branches shoot out at the distance of about 1 foot apart. The lowest branches are the longest, and they shorten as they ascend the tree, causing the tree to assume the shape of a sugar-loaf. Both the body and branches produce fiber. It is a straight, brown, strong fiber used generally for rope and twine making. Eight hundred trees may be produced to the acre, and after the third year will produce annually 1 or 2 pounds of fiber to the tree.

The *Agave Mexicana* grows 3 or 4 feet high, and 1 acre will support twenty-five hundred plants. After three years each blade will produce half an ounce, or, say, half a pound to the plant. The crop may be reaped each succeeding year for from twelve to sixteen years without replanting. The plant becomes dry and worthless as soon as it produces a flower, but it rarely produces the flower before twelve years, and usually not before sixteen or twenty years. This plant grows wild on the island, but it is understood to have been brought here from Mexico. The stem is thicker than the *Agave Americana*. The fiber is 3 to 4 feet long, fine, strong, and would doubtless be good for textile purposes. The process of curing it is the same as that of the plantain, already stated.

The *Agave Americana*, or American aloe, grows higher than the *Agave Mexicana*. It varies in height from 4 to 5 feet and the fiber is the same length. It grows here abundantly, mostly near the sea-shore, and is understood to be native to the island. The fiber is coarser than the Mexican agave, but about as much can be produced to the acre, and it is cured in the same manner. After the third year it may be reaped annually.

Of the pine-apple (*Ananassa sativa*), only the blade, which is 2 or 2½ feet long, produces fiber, which is of the same length. It is cured in the same way as the plantain and agave. The fiber is strong and fine, and is believed to be well suited for textile manufactures. It is of a finer texture than either the American or Mexican agave. One acre can produce annually twenty-four hundred plants and each plant 2 ounces of fiber. After the second year a crop is reaped annually.

Pinquine, or wild pine-apple (*Bromelia sylvestris*), is like the cultivated pine-apple. It grows here wild and in abundance, mostly on poor land. The blades are 5 to 6 feet long and the fiber the same length. One acre of land will produce one-fourth more fiber of it than of the pine-apple, and it is equally as fine and strong and even, if any thing, more beautiful, and is believed to be as serviceable in every respect as the fiber of the pine-apple. It is cured in the same way as the pine-apple and plantain. After the second year a crop is reaped annually.

Sanseviera zeylanica is native here and grows in great abundance. It is from 2 to 5 feet high and fiber of the same length. The blades only produce fiber, and they grow from the root in bunches. The fiber is strong and well suited for fine textiles. It is about as fine, but stiffer than the fiber of the American agave. A square foot will give about 3 ounces of fiber, and after the first year may be reaped annually.

Agave rigida, or sisal-hemp, has lately been introduced here. The blades alone, which grow about 2½ or 3 feet long, are used for fiber. Eight blades, on actual experiment, give 1½ ounces of fiber; but the blades used were believed to be not fully matured. The fiber obtained is about 3 feet long, strong and coarse and stiff, suitable, it is believed, for strong ropes and chair bottoms. An acre ought to support two thousand plants (say sixteen blades each) and ought to produce at each reaping 3 ounces of fiber to the plant. After three years a crop is reaped annually.

Wild pine (*Karatas*) grows here in great abundance. It is a parasite found on trees of all descriptions, and resembles a pine-apple. The length of the blade is from 2 to 3 feet, and the fiber is the same length, and is similar to that of the pine-apple. The fiber is as fine, but not as strong, as that of the pine-apple. After two years a crop is reaped annually.

Spanish needle (*Yucca*) grows 8 or 10 feet high, and is used for hedge fences. It has blades 2 to 3 feet long, fiber of the same length, and similar to the blades of the sisal-hemp. It bears a white flower every two or three years. The fiber is believed to be as good in every respect as that of the *Sanseviera*, which it resembles very much. It is a strong, fine fiber, and doubtless of much importance for textile purposes. Each plant ought to produce sixteen to twenty blades after the first year, giving about 3 ounces of fiber to the plant. After the second year it can be reaped twice a year and produce as much fiber to the acre as the sisal-hemp.

In addition to the foregoing information, obtained from Mr. Thomas St. Hill, to whom I would refer interested parties for further information, I beg attention to the following extract from the annual report (1889) of Mr. I. H. Hart, F. L. S., superintendent of the royal botanical gardens of Trinidad:

The typical form of the species to which the remarkable fiber plant belongs (*Agavi rigida*) is being grown and propagated in the gardens; but, though it is known to produce a first-class fiber, it is probable that its variety *Sisalana* gives a larger return of a better class of fiber, and is more easily and economically worked.

With regard to machinery for producing the fiber from all plants of the order of *Amaryllidaceæ*, it is probable that no machine at present is superior to that manufactured by a London house, although it is stated in a recent report that many of the fiber machines used in Yucatan of an original type, called the "Raspadore," are doing the work extremely well, and a similar machine is being used in Mauritius. Kennedy's Jamaica Machine is also said to do good work.

In my report on the "Agri-Horticultural Resources of Tobago" I mentioned *Furcræa cubensis* as the source of a first-class fiber. This plant is probably not equal to the "pita," or *Agave sisalana*, as a fiber producer, but still it is a first-class fiber, and one which would undoubtedly pay to manufacture where it can be cultivated on an economical and extensive scale. In Tobago the plant is indigenous, being found covering thousands of acres in all parts of the island to the exclusion of others of its order. *Furcræa cubensis* is known in Trinidad as the "Langue Bœuf," in common with an agave growing at the Bocas Islands. The latter has been determined by Mr. Baker, of Kew, in his new work on the *Amaryllidaceæ* as *Littæa polycantha*, formerly known only from Mexico. It is useless as a fiber producer, its fiber being curled and hard to extract. *Furcræa cubensis* is, however, growing in many places in Trinidad, being found at the Bocas Islands, the Maracas valley (where the fine variety *inermis* is found), and is cultivated at Brechin Castle estate and at the convict depot of Chaguanas. Consequent upon the anticipated demand for plants, many thousands have been raised in the botanical gardens, the beds now containing a stock of between fifteen and twenty thousand plants. *Sanseviericæ* of several varieties are also being propagated largely, and two species recently imported from Kew have been added to the number. The fiber from these plants is a most excellent one, and commands high prices in the market. It is hoped, by the aid of suitable machinery, to place a consignment of this fiber upon the market during the coming year from the fields under cultivation at the convict depot of Chaguanas.

A gentleman whose opinion, I think, is entitled to considerable weight informs me that there is no machine now in use in this colony (Trinidad and Tobago) that obtains the fiber without destroying the fuzzy substance of the fiber ribs. The principal machine, if not the only one, now operated in this colony is arranged for the operator to hold the blade of the plant in his hand, while the machine scrapes out the green and watery substance. He thinks if a machine could be devised, if not now in existence, that would act somewhat on the principle of a cane-mill, in which the cane enters one side and comes out the other thoroughly crushed and squeezed, a great advantage would be obtained over the present practice here.

WM. P. PIERCE,
Consul.

UNITED STATES CONSULATE,
Trinidad, November 29, 1890.

FIBER PLANTS OF COAHUILA.

REPORT OF CONSUL FECHET, OF PIEDRAS NEGRAS.

The rugged hills, elevated *mesas* (table-lands), and upland valleys of the state of Coahuila, Mexico, are covered with a scant soil composed almost entirely of mineral matter resulting from the decomposition of the underlying rock formations. Stones and rock fragments abound in the scanty soil.

In these semi-mountainous regions there are no living springs or running streams of water. Heavy torrential rains are followed by long periods without rains, so that these regions are almost as dry, and quite as sterile in life-supporting vegetation, as desert regions.

Here, however, in these otherwise worthless regions the valuable fiber plants—the lechaquilla and the palma real—flourish. These plants find in these barren and stony districts a congenial habitat and thrive so well that it is claimed that in no other region do they attain equally large growths. The lechaquilla produces the ixtle of commerce, and the palma real (a species of Spanish dagger) yields a long, tough, and pliable fiber that is especially adapted to the manufacture of twine, rope, and all kinds of cordage and coarse baggings.

The supply of these valuable fiber plants is practically inexhaustible throughout the elevated districts of Coahuila. Above the lower valleys are vast tracts, through which a man on horseback can thread his way by narrow paths all day through thickets of lechaquilla and palma real without seeing a square rod of soil that is free from those drought-proof, fiber-producing plants.

The Mexican International Railway traverses the state of Coahuila from Piedras Negras, on the Rio Grande, to Torreon, on the Durango frontier, thus furnishing ample transportation facilities. Already on the line of this railroad one American company has engaged in the manufacture of ixtle fiber from the lechaquilla and two other companies are erecting machinery for the same purpose.

At present in Coahuila the bulk of the ixtle is produced by hand processes in a slow, crude way by beating the plant to separate the fiber from the enveloping pulp. A decorticating machine to economically and thoroughly clean the fiber from the pulp without injury to the fiber is a desideratum that has only been attained by patient experiment. The machine-made product will soon exceed and replace the hand-made product, with a resulting decrease of cost of production.

Under the tariff laws of the United States all kinds of vegetable or plant fibers are admitted to the United States free of duty.

Ixtle from Coahuila is already exported in large amounts, 430,860 pounds having been shipped to the United States and 40,588 pounds shipped in bond to Europe from this port during the fiscal year ended June 30, 1890, at an export valuation of 5 cents per pound. At the present prices ixtle is too costly to be spun into cordage in the United States, as it is in Mexico, and the fiber is too short, too stiff, and tapers too much for use in the cordage machines now employed in the United States. Ixtle, however, finds a ready market at the various factories of brush-makers' material in the United States.

In these factories it is graded or sorted, colored gray, black, or white to imitate the different kinds of bristles, cut into lengths, and packed in little bundles for shipment to the brush factories.

In this form it is found to be the best substitute for bristles ever discovered, and for dry uses it makes a brush but little inferior to the genuine bristles, and, in fact, cost considered, is a superior article.

Ixtle is treated to a stiffening and water-proofing process, and polished so that it closely resembles the bristles, and is used in the best grades of brushes.

Palma real fiber has commoner uses and is better known ; it is simply sorted, spun into cordage, or woven into bagging, for both of which purposes its great strength, pliability, and length admirably fit it.

The machinery and plant needed to prepare the fiber of these valuable plants are both simple and inexpensive and can be moved from place to place.

From present indications, it seems very certain that within a year very many factories will be established to produce the fiber from the lechaquilla and palma real at convenient points on the line of the Mexican International Railway, thus very largely increasing the product of raw fiber for exportation.

With abundant raw material (crude fiber) and ample railway transportation, it is believed that cordage and bagging factories and factories for manufacture of brush-makers' stock can be most advantageously established at the American towns along the Rio Grande border having railroad connections with Mexico.

Eagle Pass, Tex., opposite Piedras Negras, may be regarded as the center of the best fiber-producing regions, as large supplies of the raw material can be drawn from the regions to the south, southeast, north, and northwest.

Abundant raw material free of duty, ample railroad facilities from the interior of Coahuila and to all parts of the United States, and cheap and excellent fuel from the local coal mines around Eagle Pass would seem to embrace all the factors requisite for a successful enterprise.

EUGENE O. FECHET,
Consul.

UNITED STATES CONSULATE,
Piedras Negras, December 18, 1890.

AD VALOREM DUTIES IN GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to report as of possible interest the fact that the ad valorem duties provided for in the union customs tariff of Germany are reckoned on the value at the place of origin or manufacture of the imported articles, in addition to the necessary transport, insurance, and commission charges to the port of first arrival in Germany. Whoever imports such an article must declare to its value in writing. If the customs officials consider the declared value insufficient, they are empowered to hold the goods for payment of the declared value, with an addition of 5 per cent. to the person importing the same. This payment must be made within fourteen days from the day of declaration, and any duties which may have been paid must be returned.

If the customs officials wish to exercise the pre-emption (confiscation) right, then the person against whom the same is to be exercised, if he so desire, may demand an appraisal of the wares by experts. The customs officers have the same right, if they do not decide to make immediate use of the right of pre-emption. If the appraisal by experts shows that the value of the wares does not exceed the declared value by more than 5 per cent., the duty is to be collected in accordance with the declaration. If the real value is shown to exceed by more than 5 per cent. the declared value, the customs officers, as they see fit, may exercise their pre-emption right or collect duty on the value fixed by the experts. As a fine, 50 per cent. of itself shall be added to the duty when the valuation fixed by the experts exceeds by 10 per cent. the declared value. If the difference between the appraised value and the declared value exceeds 5 per cent. (the appraised value more than 5 per cent. higher), the costs of appraisal are to be borne by the declarant; if the opposite is the case, by the customs officials. In case of such appraisal, one expert judge is named by the declarant and one by the chief local customs official. Where a decision can not be obtained, or where the declarant demands it, the experts may select an umpire; and, when the experts can not agree in this, this may be done by the president of the commercial court or, where such does not exist, by the presiding officer of the civil court of first instance. A decision must be given within fourteen days after the appointment of the arbiters.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, December 4, 1890.

VERA CRUZ CUSTOM-HOUSE.

REPORT BY CONSUL-GENERAL SUTTON, OF NUEVO LAREDO.

The custom-house at Vera Cruz is the most important in Mexico, and a study of its financial operations for the year will be of interest in the discussion of Mexican affairs.

For the fiscal year ending June 30, 1890, the receipts and expenditures were as follows:

RECEIPTS.

Balance on hand July 1, 1889	$71,730.64
Import duties	12,761,883.95
Balance of credits, imposts, etc., from previous years	639,992.28
2 per cent. additional for port works	267,258.83
Tonnage dues	13,713.04
Light-house dues	16,700.00
Fines	1,235.94
Loans on short time	1,194,409.82
Confiscations and fines	127,217.51
2 per cent. for hospitals	2,624.35
Deposits	15,524.69
Other custom-houses	121.49
General treasury	8,596.72
Duties on exports of woods	2,954.38
Smelting, assay, coinage, etc., dues	598.68
Total	15,124,562.32

EXPENDITURES.

Expenses of administration:		
Salaries of custom-house officers	$87,919.18	
Salaries of customs guards	71,240.08	
Salaries of boats' crews	5,336.30	
Section of Alvaredo	6,732.65	
Section of Tlacotalpan	5,950.72	
Section of Santecomapam	2,239.17	
Section of Nautla	4,189.73	
Maritime and frontier custom-houses	9,568.00	
		193,175.83
Payments:		
General treasury	7,870,126.22	
Light-house	7,399.77	
Railroad construction certificates	1,922,590.00	
Liquidation of floating debt	653,360.00	
Import duties	9,028.14	
Credits on uncollected duties in previous years	6,269.75	
Short-time loans	1,148,910.12	
Confiscations and fines	119,325.20	
2 per cent. for hospitals	2,427.43	
Deposits	45,656.48	
General, common, and extraordinary expenses	6,684.98	
Municipality of the port	167,130.11	
20 per cent. certificates, decree of April 2, 1888	2,663,350.00	
2 per cent. extra for port improvements	246,754.82	
Subvention to steamers for department of interior	3,300.00	
Balance on hand July 1, 1890	59,073.47	
		14,931,386.49
Total		15,124,562.32

Table showing revenues of 1890 compared with 1889.

Description.	Fiscal year ending June 30—	
	1889.	1890.
Import duties	$11,391,982.17	$12,761,883.95
2 per cent. extra on duties	83,676.93	267,[illegible]58.83
Overdue balances	312,532.51	639,992.28
Tonnage dues	16,575.67	13,713.04
Storage	2.10	
Light-house	12,250.00	16,700.00
Exportation of woods	2,753.95	2,954.38
Assay and coinage	307.99	508.68
Total	11,820,081.32	13,703,101.16

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Nuevo Laredo, July 18, 1890.

COMMERCE AND INDUSTRIES OF MOROCCO.

REPORT BY CONSUL-GENERAL MATHEWS, OF TANGIER.

AMERICAN VS. EUROPEAN TRADE.

On the whole there has been a general increase of trade and an improvement in prices during the year 1889–'90, brought about by good harvests on the one hand and on the other by the opening of more direct trade with some European markets, the manufactures of which have hitherto been mostly introduced into Morocco through English and French channels.

Germany, Belgium, and Holland have of late come into active competition with England and France. Such articles as sugar, cotton and wool stuffs, iron and hardware, though of inferior quality to those furnished by the old markets, are nevertheless preferred by the natives on account of their cheapness; while, therefore, trade in general has increased with Germany, that of the French has shown some decrease.

In American manufactures no increase has been perceptible, as these invariably come into the country through European channels and are entered in the custom-house under the heading of goods coming from England and colonies, France, etc. I have in time back advocated direct communication between the United States and this country, in order to enhance the importance of our trade in this virgin land. The argument that so long as our manufactures are introduced it does not matter which way is employed can not hold good, inasmuch as American goods, coming through other hands, are hampered with commissions and profits which render it impossible for competition at the prices current in these markets.

It is notorious that our manufactures have competed advantageously in qualities and values with most countries in their own markets, while these same goods come into Morocco at prices which prevent their free introduction, notwithstanding their acknowledged superiority. I have seen articles overcharged 20 to 40 per cent. over catalogue rates, which enormous difference can not be brought about by simple freights and charges, but by the intermediate commission agents, who have in view the double object of making a large profit as well as of getting the preference for their national products.

There is no doubt that, were our merchants to introduce their productions and seek direct relationship with this country, our commerce would be materially benefited by the increase, to say nothing of the advantage of opening a direct trade with a country which is the stepping-stone to many points of central Africa. If this is done, there would be no difficulty in inducing the Anchor line and the Florio-Rubatino lines of steamers, which call at Gibraltar on their way from the United States, to call at Tangier, the distance being only a matter of two hours and the port expenses fully covered by $10 to $12 per steamer.

The German Government has in time seen this and acted accordingly, to the benefit of German commerce. German firms are established at Tangier and other Morocco ports, having depots of all classes of German articles, which they bring out for their numerous native clients, all of whom are indirectly under the protection of these firms and supported by the German legation; thus, in the course of eight or nine years, this trade has increased tenfold and is steadily increasing. Germany sent her first representative to Morocco after the Franco-Prussian war, and since then three expensive embassies have gone to visit the Sultan, carrying presents consisting of German manufacture and arts. The last embassy, under Count Tattenbach, German minister, concluded a treaty of commerce with the Sultan, which is now in course of being ratified. All these efforts are pushed forward with the end of further daily increasing the trade between the two empires. Steamers going to Spain from Hamburg and Antwerp regularly call here. Germany is represented by the steamers of the Sloman's line and the Woermann line, which latter commenced to call here at the end of last year; these vessels land their goods, taking back what produce there is for their country.

Italian shipping now appears for the first time regularly. It consists exclusively of the steamers of the Veloce Company, of Genoa, which has made Tangier a port of call on the way to and from South America. At present they do not bring or take back much Tangier cargo, but they bring for transshipment for Cadiz quite an amount of cargo. From Tangier they take chiefly goat-skins and wax for Italy. They also take in provisions, which they can probably obtain cheaper here than in Italy.

Numerous travelers with samples are constantly pouring in, taking orders and studying the country; none go back empty-handed, and, judging by the progressive increase of the trade, they have no reason to complain of their new markets. Something ought to be done by our manufacturers and merchants in the shape of jointly creating an American depot of samples, in the hands of an American agency, which should recommend to our manufacturers the class, qualities, and dimensions of goods suitable for these markets, report upon the native products suitable for the United States, and use every means whereby a free interchange of commodities may be brought about. Such agency could procure orders, and, when quantities are of sufficient importance to justify it, order a steamer to call here with the cargo. By these means the natives will soon discover the advantage of giving preference to our goods, and eventually direct relations will ensue.

In the present time of known competition, when the battle for subsistence compels all European nations to direct their attention to unopened territories, we must not be behindhand in this land of promise.

TRADE HINDRANCES.

The great drawback to unprotected trade in this country in general has been the want of confidence experienced by most foreign traders, who are loath to speculate in any branch of trade on credit, finding it most difficult to get their own back from the natives, who are so ground down by exorbitant taxation as to find all their products have disappeared before they have the value of them in hand. The poor agriculturist is on the one side dunned by his Government for taxes and on the other by his foreign creditor, who, also, has to suffer from the results of the Government's exacting propensities. In many cases, where the native is willing to acquit himself honorably towards his foreign creditors, he dreads to show his resource for fear of having his property confiscated by the unsalaried authorities, in whose eyes the greatest crime a man can commit is to possess property of any consideration. Under these circumstances, and in the absence of any proper tribunal wherein redress is likely to be obtained, foreign traders are chary about placing their wonted confidence in natives whose solvency may, from one day to another, become *nil* by a stroke from the functionary who has jurisdiction over them. Hence the eagerness of natives of obtaining, by any means, protection from any foreign representative, notwithstanding that the treaties afford sufficient protection for those legitimately connected in business with foreign traders. It is therefore not surprising that many of the tribes are in open revolt, and many who were formerly honest and thrifty plowers of land have been converted into bands of marauders, whom all the Sultan's efforts can not subjugate.

During the year divisions of the Sultan's armies are sent to different parts of the Empire, carrying devastation wherever they go; but, instead of subjugating the tribes, such steps only serve to irritate them all the more, as, instead of inquiring into grievances and endeavoring to redress wrongs by introducing salutary reforms, the policy seems to be that of weakening the already overwhelmed tribes, who, in their turn, resume their lawless practices as soon as the armies leave their district; and, in many cases, where the faults of the guilty are visited upon the innocent, these also become infuriated and join the rebellious movement when they see their property unlawfully confiscated or destroyed.

The Sultan has just returned to his southern capital, the city of Morocco, after a series of sanguinary encounters with the Berber tribes. Numbers of heads from the slain rebels have been sent to Fez and Mequinez to adorn their respective city gates to act as a determent to his subjects.

Under such conditions it is not to be expected that trade and industry can flourish, especially when its autocratic system gives the population no chance of turning to account the rich treasures of the country, many of the richest articles being prohibited to trade, while the less valuable produce is so hampered with taxation that the producer must give his produce at a very low rate in order to allow shippers to realize cost and profit.

The Sultan prohibits the development of the numerous mines of various precious and valuable metals, as well as coal, with which this country abounds. Attempts are being made to induce this Government to adopt a more equitable system and to encourage trade, so as to enrich its treasury by more legitimate contributions likely to result from the extension of commerce

But little hopes, as yet, are entertained of a successful issue for these wise suggestions.

Owing to the foregoing reasons, the progress and advancement of this almost virgin land must necessarily be slow. However, it is hoped that the present European embassies which are about starting on a visit to the Sultan may be able to accomplish something in the right direction.

IMPORTS.

It may, perhaps, be of interest to show in a tabular form the total value of imports to Morocco during the last twenty years:

Years.	Value.	Years.	Value.
1870-'71	$3,386,470	1880-'81	$3,638,895
1871-'72	3,905,255	1881-'82	3,942,680
1872-'73	4,253,880	1882-'83	4,423,440
1873-'74	4,172,390	1883-'84	3,577,590
1874-'75	5,238,000	1884-'85	4,578,850
1875-'76	5,057,940	1885-'86	6,569,645
1876-'77	4,888,085	1886-'87	7,388,595
1877-'78	5,413,310	1887-'88	6,509,675
1878-'79	4,492,775	1888-'89	7,364,490
1879-'80	4,714,863	1889-'90	8,715,105

The total imports during 1889-'90 amounted to $8,714,755, against $7,310,810 last year.

Raw cotton.—The quantity imported was 827 cwts.; value, $29,230. Prices ruled at about $20 per cwt. for middling or lean.

Cotton goods, gray.—Bleached and printed cotton cloths from Manchester form an important item of the trade, and of late years English manufacturers have so successfully imitated the Pondicherry blue dyes as to secure for English dyed cottons a preference over the original goods from India.

The staple goods are T-cloths, gray, white, croydons, bleached long cloths, dyed bafts, and muslins of all descriptions (plain, embroidered, and printed) from Manchester and Glasgow.

Woolen cloths.—The original Yorkshire goods are now almost superseded by German and Austrian manufactures, particularly in the low-priced goods; but in the better classes England still holds her own. The values run from $1.25 to $4 yer yard.

French textures.—French textures of all descriptions are imported only in small quantities; in silk goods, however, no other country has been able to compete with any success against Lyons and Nîmes.

Iron and hardware.—Birmingham and Sheffield are the chief sources of supply, notwithstanding German and Belgian competition in the lower qualities. Swedish and English iron in bars is largely imported, as well as Belgian. Other metals, chiefly brass, copper, bar-tin, tin, zinc, and brass and copper in sheets, are imported in small quantities for native manufacture, chiefly from England.

Loaf-sugar.—This article is the principal item of importation into this country from France, Marseilles having almost annihilated Belgian and Dutch competition in these markets. This article amounts to nearly half of the total imports from France. Brown sugar comes from England; some crushed comes from Austria and Germany.

Coffee.—Rio quality is imported second-hand from Marseilles, Havre, and London in rather small quantities. The usual value runs from $12 to $15 per cwt.

Teas.—Green hyson, young hyson, and gunpowder teas are imported from England in small quantities, the very cheap teas at from 10 to 25 cents giving place to the higher class of teas.

Drugs, spices, and chemical products.—These articles are imported in fair quantities from England and France and lately from Germany, but the articles are so numerous and varied that it would be impossible to enumerate them with any likelihood of precision.

Raw silk.—Raw silk is imported in quantities from Marseilles and Genoa for native textures at Fez, such as tissues, cards, and embroideries.

Cotton yarns.—Manchester supplies most of these—gray, bleached, and dyed—for the use of native weavers at Rabat and Fez.

Petroleum.—Petroleum is getting daily into more general use; it comes from New York and Philadelphia to Gibralter and is transshiped to Tangier and other ports of the Empire. A case of two tins retails at from $2 to $3. Owing to the want of direct conveyance from America, petroleum from Batoum has commenced to be imported here.

Deals.—Since the civil war in the United States, this country adopted Swedish deals or planks, which it could at that time get at lower prices; still, several cargoes have been landed in Morocco since, and preference is given to American pine, when such can be obtained.

The present prices are as follows per 168 by 9 by 3 feet:

Swedish red deals (6 to 20 feet long)	$12.50 to $14.00
American red deals (6 to 20 feet long)	12.00 to 13.00
White deals (6 to 20 feet long)	10.00
Pitch-pine deals (12 to 40 feet long)	16.00

Flour.—Flour is largely imported from Algeria and France; some comes from the United States via England. There is a steady increase every year in the quantity imported, notwithstanding the presence of several steam flour-mills at Tangier and various other parts of the Empire. The increased importation of flour, provisions, and groceries is due to the ever increasing European population.

Candles.—The candle trade is one of the most considerable, and is chiefly supplied from England. Of the $96,935 worth of candles introduced into the district of Tangier, $85,905 worth come from England. The class of candles most in request is the paraffine, sold at $1 to $1.12½ per dozen packets, free on board at London; a box of 25-pound packets sells for $2.75 at the Tangier *fondak* (stores).

Building material.—The rapid growth of the European population has given rise to a proportionately increased demand for all building materials, of which $60,000 worth was imported last year, to Tangier principally, consisting of bricks, cement, deals, gypsum, iron rafters, tiles, etc. Bricks and tiles are mostly imported from France, notwithstanding the existence of several kilns, which produce a fairly good quality of brick and tiles, at this place, Tetuan, and Rabat. The iron joists are mostly of Belgian manufacture.

EXPORTATIONS.

The total exports during the years 1889–'90 amounted to $7,554,850, against $5,293,233 during the previous year. A decrease is reported in the value of exports at Tangier. It is from the western ports of Morocco that the agricultural products are shipped. The exports at Tangier consist, in a great measure, of oxen, fowls, and eggs to Gibraltar and Spain, rugs, slippers, and dates to Europe and Egypt. The slippers are all for Egypt, as well as some of the Morocco leather, which is of fine quality, durable, and well adapted for upholstery.

Almonds.—The crop has been fair, and prices ruled at from $20 to $24 per cwt., the value exported being $705,845, shipped to England and France.

Bees-wax.—The present ruling price is $25 per cwt. The quantity exported amounted in value to $705,845, from the ports of Tangier, Tetuan, Casa Blanca, Mazagan, Saffi, and Mogador.

Birdseed.—Tangier, Laraiche, and Tetuan exported 6,946 cwts. of birdseed, valued at $32,465.

Bones.—The permission for shipment of bones granted in May, 1888, having expired without prolongation, the quantity shipped appears as follows: From Tetuan, 680 bales, valued at $1,700; Mogador, 460 tons, valued at $3,450; Saffi, 160 tons, valued at $2,480; Rabat, 159 tons, valued at $2,400—all going to Great Britain.

Carpets.—Of this article, 395 bales were exported during the past year, valued at $77,995.

Dates.—The date crops have been smaller than the previous years, although values are almost equal, say $12 to $20 per cwt. The total shipped from Tangier was 2,315 cwts., valued at $30,100, mostly to England.

Goat-skins.—This article forms an important item of export to France. In former times large quantities of these skins were sent direct to America, but since Marseilles began to sell them ready-tanned direct shipments have ceased. At present small quantities are taken to London for transshipment to the United States. The current prices are from $17 to $20 per cwt. The value of skins exported was $377,955, from the following ports: Tangier, 1,578 cwts., valued at $17,390; Tetuan, 50 cwts., valued at $625; Rabat, 1,374 cwts., valued at $34,350; Casa Blanca, 838 cwts., valued at $10,475; Mazagan, 1,545 dozens, valued at $3,400; Saffi, 880 cwts., valued at $13,200; and Mogador, 80,394 dozens, valued at $298,515.

Grain.—There was a considerable exportation of maize and beans to Great Britain. A few shipments went to Madeira and Portugal.

Gums.—The principal gums shipped were brown gum, gum sandarac, and gum senegal, the joint value of which amounted only to $48,175, the roads leading to sea-ports from places of production being unsafe for conducting goods.

Olive oil.—Olive oil shows a very large increase; 1,946 tons were shipped, the value being $281,460, to England and France; $1,500 worth went to Spain. The current price here is $7 per cwt.

Orris root.—Of this article, the quantities shipped are exceedingly small at present, and, though in previous years large quantities were gathered for shipment abroad, the present tariff of duties on produce which is brought to the sea-ports so hampers all the low-priced articles as to render speculation for shipment almost impracticable. Up to a few years ago this article could be bought at about $2.50, free on board; but lately, owing to the additional duties and taxes, it costs nearly twice as much. The same reasons may be applied to citrons, esparto, euphorbium gum, archil weed, horns, peas, rose leaves, sesame, and walnuts.

Palmetto leaves.—These would also be a source of great riches to the country people, owing to their unlimited abundance all over the country; but these are one of the prohibited articles, the Sultan thus absurdly losing quite a great revenue.

Wool.—Owing to the still depressed state of the markets in Europe for Barbary wool and their low prices, the shipments this year do not exhibit a material change. A large quantity of the clips, from its low value, has been retained in the country for the use of the native manufactories of carpets and woolen fabrics. The quantity shipped has been 11,810 cwts. of washed wool, valued at $190,210, and 33,753 cwts. in the grease, valued at $387,980, making a total of 45,563 cwts. of wool, valued at $578,190, shipped mostly to England and France. The current price of wool at present is from $10 to $12 per cwt. according to quality, or from $14 to $16 per cwt. free on board.

Exports from Morocco during the past twenty years were as follows:

Years.	Value.	Years.	Value.
1870-'71	$3,136,840	1880-'81	$3,[illegible],770
1871-'72	4,566,305	1881-'82	3,441,415
1872-'73	6,142,885	1882-'83	[illegible]
1873-'74	7,777,330	1883-'84	[illegible]
1874-'75	5,396,755	1884-'85	[illegible]
1875-'76	6,466,766	1885-'86	[illegible]
1876-'77	5,424,940	1886-'87	[illegible]
1877-'78	6,074,410	1887-'88	[illegible]
1878-'79	3,491,850	1888-'89	[illegible]
1879-'80	3,747,685	1889-'90	[illegible]

NAVIGATION.

British shipping consists of the small steamers trading between this port and Gibraltar—the steamers of the Mersey Steam-ship Company, which make the round from London to Gibraltar, Tangier, and the western ports of Morocco and back at intervals of from two to three weeks; and some pilgrim steamers every year to take and bring pilgrims from Tangier to Jeddah and back.

France, in point of tonnage, heads the list. The number of French vessels is not a third of those of England and Spain. The French steamers that come here are all of a fair size. Their shipping consists of the mail steamers of the Compagnie Générale Transatlantique, which visit Tangier once a week, and those of Messrs. Paquet & Co., of Marseilles, which run twice a month between Marseilles and the Canary Islands, calling at all of the Moorish ports of the Atlantic. A smaller vessel of this company also plies between Tangier, Laraiche, and Rabat, conveying the cargoes of the larger steamers that can not cross the bars of the two latter ports.

The Italian shipping consists exclusively of the steamers of the Veloce Company, of Genoa, which has made Tangier a port of call on the way to and from South America.

German shipping consists of the Sloman's steam-ships, which call here on their way from Hamburg to the Mediterranean, and the Woermann line.

Spanish shipping, if we deduct the small sailing craft, is composed of the subsidized mail boat that three times a week plies from Cadiz to Tangier and back and other steamers of the same company (Compañia Transatlantica), whose itinerary is from Cadiz to Tangier and all the western ports of Morocco and back.

The total tonnage of shipping entered was 769,862 tons, and 783,509 tons cleared at all the ports of Morocco.

AGRICULTURE.

The labor of agriculture is carried on in the most primitive style by the natives, as the want of civilization opposes the introduction of all kinds of machinery; and foreign implements of agriculture which have been tried have failed, as the country has not yet sufficiently issued from its normal state of barbarism and prejudiced ideas to admit of their use. This country is, unfortunately, subject to frequent visitations of droughts and locusts, that, also, in a great measure check the prosperity and increase of trade.

The real friends of the Sultan among foreign representatives are unceasingly urging upon him to remove the prohibition measures and give legitimate trade and agriculture greater scope for development; but so far their representations have proved unsuccessful, and this rich country is making retrogressive, instead of progressive, steps towards civilization, owing to its misguided Government.

FISHERIES.

That valuable fish the "tasergelt" (*Temnodon saltator*), known in America as the blue-fish, makes its appearance in great numbers on the southwestern coast of Morocco about the month of August, and stays until the beginning of December.

The large "azlimzah" (*Sciana aquila*), averaging about 30 pounds, are caught occasionally in large quantities. These huge fish are sold very low. Sardines and anchovies are caught in great numbers, salted, and taken to Spain and Portugal.

The "shebbel," or shad—almost equal to, although larger than, the American shad or the *Clupea alosa* of Europe—is caught in large quantities during winter and spring in the principal rivers of Morocco. Their average weight is about 8 pounds. The fresh fish is delicate in flavor, while the salted, even in the rough manner in which it is cured in Morocco, resembles a rich, mild-cured salmon. It seems probable that, among other of the many undeveloped industries of Morocco, something might be done in the curing and tinning of shad, sardines, and anchovies at some of the ports of Morocco.

Lobster and craw-fish also abound, but are only eaten by the European residents. Mackerel abound in these waters. Soles, red mullet, and turbot are only caught along the shores. Mussels of several varieties are caught on the rocks abounding on the coast. They are eaten mostly by the foreign residents; the natives on the southern coast also use them.

Numerous Spanish and Portuguese fishing craft are engaged all along the Morocco coast, carrying the fish to their respective countries.

F. A. MATHEWS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Tangier, December 6, 1890.

RAILROADS IN MEXICO.

REPORT BY CONSUL RICHARDSON, OF MATAMOROS.

I have the honor to inform you that work has been resumed on the Corpus Christi and South American Railroad under the direction of Griffin Brothers, contractors, of Minneapolis, Minn. There can be very little doubt that the 150 miles between the initial terminus and Brownsville will be built during the coming year. This road was inaugurated August 4, 1890, and after about 6 miles of it were graded work was abandoned for some unknown reason. Lack of funds was alleged. There was some ground, however, for the suspicion that it had served its purpose in making real estate speculators in Corpus Christi unload some city property of uncertain value. Now it seems that work has been resumed in good faith and will be pushed energetically until Brownsville and Matamoros are brought into living contact with trade centers in the United States.

On August 23, as previously reported, the Matamoros, Tinares, and Matehuala Railroad was formally inaugurated. This road was designed to directly connect Matamoros with Matehuala, a distance of 360 miles, and thence later to be pushed on to San Blas, on the Pacific coast. After grading some 7 miles, work was stopped. Lack of funds was here, also, given as a reason. The prevailing opinion was that the road was inaugurated simply to save the concession from forfeiture. There are now some indications of an early resumption of work. If this is done, the commercial condition of Brownsville and this city will be very materially improved.

JOHN B. RICHARDSON,
Consul.

UNITED STATES CONSULATE,
Matamoros, November 19, 1890.

THE POTATO AND ITS BLIGHT.

REPORT BY COMMERCIAL AGENT REID, OF DUNFERMLINE.

In the region where this report is written the potato crop is one of the most important and successful products. Occasionally large shipments are made to America. Like all useful animate life, be it plant or beast or man, the potato has its special enemies, against whom scientific inquiry is lately directing careful attention and pointing out lines of treatment to all interested in its successful culture.

The apparently most active enemy of the potato is a fungus bearing the scientific name of *Peronaspora infestans,* and is one of those mischievous agencies which would seem to be forever prowling about, ready to seize upon any subject whose limited vitality invites the attack. In potatoes, as in many other things, the fittest survive. A strong, healthy potato plant, grown in advantageous conditions as to soil, climate, and weather, can defy all attacks. A weak plant in unfavorable environments falls an easy prey to its fungus enemy.

It is assumed by recent investigation that the germs of the *infesta*, or fungus, are always present. With conditions congenial to fungus development, the fungus growths spring forth in myriads, carrying devastation wherever they appear. These congenial conditions are damp, dull, calm weather, a moist or wet soil, and mist.

The fungus generally delays its coming until towards the end of July. Its annual life history may be stated as follows: It is believed that the first attack of fungus is on the leaf. There it is first seen in a delicate white bloom, accompanied by dark blotches, caused by the spawn of the fungus having pierced the leaf and set up putrefaction. These early appearances will be seen in greatest profusion in the lower, or drooping, leaves, which may be covered with moisture and are not exposed to the drier air playing upon the upper leaves. If the climatic conditions are favorable to the fungus, it will develop rapidly, ramifying throughout the leaves, blasting them in its progress, and sending into the air an exceedingly offensive odor.

The power of reproduction of this mysterious fungus is so wonderful that, with a favorable temperature (from 60° to 80° F.) and a moist atmosphere, one growth, or germ, will in a few days multiply ten thousand times. The spores, or germs, of the disease are so light and fine that they float in the air, while by insects and birds they are carried about in vast numbers. The disease will usually begin at only one or two centers, but, by the germs carried from plant to plant in a moist breeze, it rapidly covers the entire field. It may, indeed, and does, pass from one field to another, for in a dull, misty morning or evening the tiny, but deadly, germs may be conveyed to long distances.

From the leaves the fungus spreads successively to the leaf stalks, the gems, and the tubers; the latter may also be reached by the spores, or germs, falling from the leaves, and carried thence through the soil by moisture. The spawn of the fungus would seem to have no difficulty in piercing the skin of the tuber. When it has done so, it consumes, or rots, the cells and corrodes the starch, and ultimately may reduce the entire tuber to a black mass of rottenness.

In this last stage of its active course of destruction the fungus provides means for perpetuating its own life. It produces myriads of "resting spores," which lie dormant during the winter and spring and carry on the disease to the crop of the following year, which, in turn, passes the fungus through another round of its curious life, to be handed on again from crop to crop. Except these resting spores, it is thought that every part of the fungus perishes with the plants upon which it has developed. These resting spores, however, would seem to be possessed of amazing vitality. They live through the winter and spring in decayed potato material, ready to throw out new growth in the following year. The average loss of the present year will not be far from one-tenth of the whole crop.

Many remedial measures have been tried. Those which have been found most useful in preventing or mitigating the onslaught of the fungus are: (1) Earthing up the potato drills with a deep covering of earth, with the view of preventing the fungus from passing down the stem or through the soil to the tubers; (2) cutting off the diseased potato tops before the fungus reaches the tubers; (3) removing and burning all dead and decaying potato stems, leaves, and tubers, especially after a crop which has been attacked by the disease; (4) planting varieties which have been known to be exceptionally successful in resisting the disease; (5) growing the potato crop under such general cultural, sanitary, and manurial conditions as will insure to the fullest extent possible the healthy and vigorous development of the crop; (6) carefully selecting and storing of potatoes to be used as seed.

As yet no certain prevention or absolute remedy has been discovered against this pest; but all these recommended measures have been carried out with such marked and hopeful advantage as to be not unworthy of attention, even by American growers, aided, as they are, by greatly superior climatic conditions.

THE SEASON'S CROPS.

As this report is being written potatoes are in keen demand. November has come, but all are not yet lifted. Regents and Champions sell readily at $15 a ton. These are the kinds in which the disease has shown itself most. Not much of these are now planted. The quantity, after deducting the injured, is not up to the product of last year. The instances are not numerous in which Regents will reach 5 tons of dressed potatoes per acre and 2 of small ones; Champions yield a little more. Magnum Bonums are a larger crop and have less disease; they will yield from 7 to 8 tons per acre after careful riddling with the usual 1⅝-inch riddle, by which about a ton or less escapes; sales of these are not looked for until spring, and they are being pitted. The Bruce potato is coming into use; it gives as good a crop as the Magnum Bonum, with equal immunity from disease. Red Cups are preferred by some farmers; they are a good crop, excellent in quality, and almost free from disease, except when grown for a long time without change of seed or planted in damp soil.

JAMES A. REID,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Dunfermline, December 10, 1890.

AUSTRIAN POSTAL SAVINGS-BANKS, TELEGRAPHS, AND TELEPHONES.

REPORT BY CONSUL-GENERAL GOLDSCHMIDT, OF VIENNA.

POSTAL SAVINGS-BANKS.

Thinking that a report on the postal service of Austria at the present time may be opportune, I submit the following statistics relating to the postal, telegraph, and telephone service, which are combined in this country, and also point out, and draw particular attention to, the postal savings-bank and its check and clearing systems.

The greatest portion of the daily deposits in the postal savings-banks is derived from the merchants, who, by the check and clearing system—exactly like the one prevailing in our private banks in the United States—deposit their receipts daily and draw them out by check on demand without previous notice. Still, the original purpose of this law, viz, to encourage the working people to deposit their small earnings in this Government savings-bank, is carried out with satisfactory results, and the receipts from these sources are constantly increasing. It affords a safe depository for the surplus earnings of the mechanics, farmers, clerks, laborers, domestics, children, and others; it aids in the financial training of the young, and promotes among the masses of the Austrians, who, as a rule, are not inclined to be saving, habits of fore-thought and economy; it is, in fact, designed to be the financial trustee of the wage workers and the place where they can leave their savings with absolute safety.

Below I beg to give you a history of the Austrian postal, telegraph, and telephone service, and its gradual development under the present Government, and its successful management under one head and roof.

POSTAL TELEGRAPHS.

Up to the sixteenth century the postal service in Austria was a private enterprise, but from that time on it became a royal prerogative in all respects concerning mail and passenger service and passed into the sole possession of the State. In the year 1847 the telegraph was declared a prerogative of the State, and in 1887—thirty years later—the telephone likewise. The right of conveyance by stage-coach was abolished in 1867.

Until 1883 the postal and telegraph service was managed separately, and the general post-office was quite apart from the general telegraph office; but then the two were combined into one office, to which in 1887 the telephone was also added.

Up to the year 1867 the postal system was in a very primitive condition. Its improvement dates from the time of the so-called civil ministry (*Bürger Ministerium*), whose first laudable act was a reduction of the postage; and during a period of twenty-two years every thing in regard to the post system underwent a thorough change and reform, and it was brought to such a state of perfection as to rival the post system in the most civilized countries of the world. Until 1867 postal communication consisted in the transportation of passengers, letters, newspapers, and parcels. In quick succession every notable kind of postal and telegraphic communication in use to-day was introduced.

In 1882 the postal savings-bank was instituted, with its present grand check and clearing intercourse, the union of the postal and telegraph was completed, the railway postal service established, the postal treaty with Germany extended, special treaties entered into with Servia and Montenegro, the treaty with Hungary reformed, and agreements made with most of the European and many foreign countries concerning the money-order system, both by mail and telegraph.

Austria was one of the first countries which joined the World's International Postal Union.

During that period the old rules were altered and new ones introduced, the service of the accountants and comptrollers was reformed in accordance with the spirit of the times, the institution of central inspection and traveling commissioners was inaugurated, post-offices were built at the expense of the Government, and now the establishment of a postal museum in Vienna is being contemplated.

During later years particular care has been given to the education of the officials connected with the postal service, and annual lectures are held on postal and telegraph matters by prominent professors under the auspices of the Government. The postal course is taught theoretically, the telegraph and telephone courses practically, and, when the course is completed, the student has to pass the prescribed examinations. The officials must be raised in both branches and are obliged to pass the examinations, which are regulated by precise methods, and on the result of which employment and promotion depend.

The principle upon which the Austrian postal, telegraph, and telephone service is based is that this service is not to yield any profit, but only to promote the general welfare. The financial point of view being utterly disregarded, the entire service is organized on this basis.

Organization.—The minister of commerce acts as postmaster-general. The postal service is administered by the third section of the ministry of commerce at Vienna. At the head of it stands the director-general of postal, telegraph, and telephone affairs, at present Johann K. Ritter von Obentraut.

The post-office section is divided into eight departments. At the head of each is placed an able manager.

The supreme superintending officer of the ministry of commerce is Hofrath Koch von Langentren, who travels through Austria attending to all necessary matters, encourages and blames while inspecting, and is equally liked and feared.

The most important post-offices of Austria, which are called general post-offices, are located at the following ten places: Vienna, Lintz, Grätz, Trieste, Innsbruck, Prague, Brünn, Lemberg, Czernowitz, and Zara.

To every general post and telegraph office a technical division for telegraph and telephone construction is attached; through this division all the lines are built at the expense and under the management of the Government. Each general post-office has its financial and auditing department, which sends regular reports to the ministry of commerce at Vienna.

The offices in these bureaus are filled by two classes of officials, viz, those appointed by the State, who occupy the most prominent positions, and subordinate officers employed under contract.

The post, telegraph, and telephone are always in the same building and in one office.

In operating the telegraph, Morse's apparatus is chiefly employed; Hughes's apparatus is used on lines which are much frequented. An improvement has recently been made on the Morse apparatus, causing it to work without discontinuance of action or variation in the strength of the current. The invention has been patented, but not, as yet, practically employed. The patent is private property.

TELEPHONES.

Regarding the telephone, the most manifold apparatus are being tried, and a uniform system has not yet been determined upon. Between Vienna and Prague the microphone invented by Berliner, a so-called universal transmitter, is in use.

Up to 1887 there were only thirty small lines in Austria. In that year the first long line, a distance of 158 kilometers,* extending from Vienna to Brünn, was opened for traffic. The trial having proven perfectly successful in every respect, the Government determined upon operating on a larger scale, and, next of all, to join Vienna with the principal provincial towns by telephone.

The line from Vienna to Prague, a distance of 350 kilometers, was opened on October 1, 1889; a few months later Vienna and Buda-Pesth were connected by telephone.

In case a private party wishes to join his telephone with a State telephone, he must apply to the post-office department of the ministry of commerce, which will make the connection.

The charge for a length of line up to 500 kilometers is 50 florins;† over 500 kilometers, 10 florins for every additional 100 kilometers. A yearly subscription fee and other expenses connected with it amount to 50 florins.

The public pays on the most prominent line 1 florin for from three to five minutes' use and 3 florins in urgent cases requiring haste. The tariff for distance is 1 kreutzer‡ per kilometer.

Since the opening of the Prague-Vienna line, the calls have averaged one hundred and twenty daily, one-third of which were urgent ones.

On the whole, about 1,000 kilometers of telephone line are in operation in Austria.

POSTAL SAVINGS BUREAU.

The law regarding the postal savings bureau passed by the Reichsrath of Austria on May 28, 1882, provides in substance as follows:

The State guaranties the deposits and places the postal savings depots under the control of the minister of commerce; all post-offices designated for that purpose by the minister of commerce serve as places of deposit.

Article 1 provides that the name of the institution is to be the postal savings bureau (*Postsparkassenamt*), this bureau to be a separate department to be carried on in connection with the post-office department.

Article 2 provides that the savings deposits shall be received by the postal savings-banks and paid out through the post-offices.

Article 3 provides that all deposits exceeding the probable amount to be drawn by depositors are to be invested in interest-bearing Austrian securities, the investment to be made by the postal savings bureau.

Article 4 provides that out of the proceeds of these securities all interest on deposits, as well as all current expenses, are to be paid. If the amount of such proceeds should at first be insufficient for this purpose, the deficiency is to be paid by the State and charged to the account of the post-office department; these advances to be repaid out of the surplus of the postal savings bureau at the close of the year, and the balance of surplus remaining after such payment to serve as a reserve fund.

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* 1 kilometer = 0.621 mile. † 1 florin = 40 cents. ‡ 1 kreutzer = 0.42 cent.

Article 5 provides that every depositor shall receive a deposit book from the post-office where he makes his deposit, in which book every deposit, every repayment, and the interest due are to be entered. The deposit book is to be furnished gratis and free of stamp duty. The postal savings bureau is to open a separate account for every depositor.

Article 6 provides that the deposit book is to be issued in the name of the party making the deposit and is to contain a description identifying the depositor and also his signature.

Depositors who can not write are required to be accompanied by a trustworthy person who can identify the depositor, and who must sign the deposit book in his stead.

A transfer of the deposit book will only be recognized if such transfer has been made at a post-office designated as a place of deposit.

Minors are authorized to make deposits and to withdraw them, unless objection in writing is filed by their guardians. In case of the loss of a deposit book, a duplicate will be issued. Only one deposit book can be issued to one and the same person.

Whoever obtains more than one deposit book forfeits the interest on all moneys deposited and entered in the additional books.

The officers of the post-office are prohibited from giving to any person, except their superiors, any information whatever with reference to the names of depositors and the amounts deposited.

Article 7 provides that every deposit must amount to at least 50 kreutzers (20 cents). The total amount of each deposit account shall, after deducting the amount drawn out, not amount to more than 300 florins ($120) in any one year.

The total sum standing to the credit of one depositor for principal and interest shall, after deducting the amount drawn out, not exceed the sum of 1,000 florins ($400).

Deposits not exceeding 50 kreutzers may be made in postage-stamps, or in postal savings stamps whenever the latter stamps shall have been issued by the minister of commerce. The stamps are to be pasted on blanks furnished by the minister of commerce.

Article 8 provides that the rate of interest on deposits shall begin to run on the 1st and 16th of the month succeeding the day of deposit, and interest ceases on the 1st or the 15th of the month preceding the notice of withdrawal. No interest is to be paid on sums under 1 florin. On the 31st day of December of each year the amount of interest due is added to the interest-bearing principal.

Article 11 provides that the postal savings bureau shall be required to notify depositors, whenever their deposit exceeds 1,000 florins, and request them to reduce their deposits. If, within one month after such notice, the depositor does not reduce his deposit, the bureau is authorized to buy interest-bearing bonds for account of such depositor and to notify him of their purchase.

During the time intervening between the notice to reduce the deposit and the day of reduction no interest is paid. In case depositors do not take possession of such securities purchased as aforesaid, the postal savings bureau draws the interest on the same and credits the amount to the depositor's account as a new deposit. The depositor receives a book, in which the securities held by the postal savings bureau are entered.

Article 12 provides that at the request of the depositor his deposit, if sufficient in amount, may be invested in Austrian State bonds.

Article 13 provides that the repayment of a deposit shall be made only upon notice to a post-office designated as a place of deposit. Such repayment is to be made on presentation of a written order of the postal savings bureau. Sums not exceeding 20 florins may be repaid on demand; sums from 20 to 100 florins, in fifteen days; from 100 to 500 florins, in one month; and sums exceeding 500 florins, in two months after notice.

Article 14 provides for manner of application for new deposit books in place of those lost.

Article 15 provides that general statute of limitations shall apply to savings deposits, but that every new deposit, notice of withdrawal, and every entry of interest shall take place out of statute.

Article 16 provides that securities purchased on account of depositors shall be forfeited to the post-office department, if the same or interest on the same has not been claimed within forty years.

Article 17 provides that the books of deposit and amounts deposited can not be attached or garnisheed; but this provision does not apply to the securities held in trust, as provided. If a depositor is adjudged a bankrupt, the assignee in bankruptcy may attach and receipt for his deposits.

Articles 18 and 19 provide that the reserve fund shall be created by the surplus remaining after payment of interest and expenses arising from the usufructuary management of the deposits. This fund is gradually to be raised to a sum equal to 5 per cent. of the total deposits, but shall not exceed 2,000,000 florins. This reserve fund is to be placed on interest, this interest to be added to the principal until the maximum is reached, and, whenever it exceeds the maximum, the excess is to be credited as receipts of the post-office department.

Article 20 provides that a full report of the status of the post-office savings bureau shall be published annually by the minister of commerce and be submitted to the Reichstag.

Article 21 provides that all correspondence appertaining to the postal savings bureau shall be free of postage.

The postal savings bureau is located in Vienna and is in charge of the ministry of commerce. All post-offices have a bureau for receiving and paying money. The duties of the savings-bank are:

(1) To receive and book the amounts deposited, to properly invest the money in Government securities, to pay interest on it, to book the notification of drawing, and to pay the money when called for, either at the place of deposit or by means of money-orders or checks at some other place.

(2) The cashing of checks. This is done for the bearer at the cashier's window of the postal savings-bank, or, if the check is sent by post in the form of a money-order, it is cashed at some other office when presented by the bearer.

(3) Buying and selling Government securities.

(4) In the clearing business, the transfer of credit from the account of one member to the account of another.

Nowadays the postal savings-bank is the most popular institution in Austria, and the amount of deposits has surpassed all expectations. The clearing business has also exceeded the mark and has grown to enormous dimensions. Young people are the chief investors in the postal savings-bank, and to them most of its success is due.

The loss sustained in the revenues of the post through the establishment of the postal savings-bank amounts to millions of florins, it is true, but it is amply counterbalanced by the easiness with which the transfer is effected and by indirect profit.

The most important stipulations of the law respecting the postal savings-banks are:

Savings business.—No charges are to be paid, except 10 kreutzers for the book in which the deposits are noted; the highest deposit is 1,000 florins, the lowest 50 kreutzers; deposits to the amount of 50 kreutzers can be made in postage-stamps; interest is paid at the rate of 3 per cent.; no interest at all is paid on credit exceeding 1,000 florins; the rate of interest may be decreased, but not increased above 3 per cent.; return payments above 20 florins, if notice is given beforehand, can be received at any post-office and independent from the place where the first deposit was made; any post-office can make return payments up to 20 florins without previous notice.

Check business.—The amount of the deposits is unlimited; a check must not exceed 10,000 florins; a permanent deposit of 100 florins, bearing no interest, makes one a member of the check and clearing department; 2 per cent. interest is the highest rate paid on deposits in the check and clearing business; for every entry 2 kreutzers are charged, besides a commission of one-fourth per *mille*.

Depositors in the savings-bank who have a good credit can at any time desire the savings-bank to buy Government securities, for which a commission of 2 per *mille* is charged. For the cashing of coupons 1 per *mille* is charged.

The most important rules and taxes in the Austrian post and telegraph system are as follows:

Letters.—An ordinary letter, up to 20 grams, costs, post-paid, 5 kreutzers; not post-paid, 10 kreutzers. A local letter is 3 kreutzers, if post-paid, and 6 kreutzers, if not post-paid. A double letter, weighing from 20 to 250 grams, is 10 kreutzers, if post-paid, and 15 kreutzers, if not post-paid. A city letter of the same weight is 6 kreutzers, if post-paid, and 9 kreutzers, if not post-paid. Letters weighing over 250 grams are excluded from the mail, and are to be considered as parcels and transported by the parcel post.

In the intercourse with Germany the same rules hold good, only the weight of an ordinary letter is fixed at 15 grams.

Printed matter.—The postage on printed matter is as follows: Up to 50 grams, 2 kreutzers; from 50 to 250 grams, 5 kreutzers; from 250 to 500 grams, 10 kreutzers; from 500 to 1,000 grams, 15 kreutzers. Printed matter weighing over 1,000 grams must not be forwarded by mail, but by express.

Letters and parcels.—Letters and parcels containing samples of merchandise, weighing 250 grams, cost 5 kreutzers; if the weight is more than 250 grams, they are not received at the post-office. The postage must be paid beforehand.

Postal-cards.—The price of these is 2 kreutzers apiece; those with a reply card attached are 4 kreutzers apiece.

Newspapers.—When mailed by private parties, newspapers have the same postage that printed matter has. When sent from the publishing office daily or several times a week, they are 1 kreutzer a copy, independent of the weight. Over 1,000 grams is not permitted.

Registration.—All articles sent by mail, except newspapers from the publishing office, can be registered; charges, 10 kreutzers. Indemnification in case of loss is 20 florins.

Express.—All consignments by mail may be made by express. Express charges are 15 kreutzers; messengers' charges, 50 kreutzers. Both fees are to be paid beforehand in stamps.

Return receipts.—These are allowed for registered articles; fee, 10 kreutzers.

The following stamps, stamped envelopes, etc., can be obtained at all post-offices. Stamps 2, 3, 5, 10, 20, and 50 kreutzers; stamped envelopes, 5½ kreutzers; postal letters, 3 and 5 kreutzers; postal savings tickets, 5 kreutzers; newspaper stamps, 1 kreutzer; newspaper wrappers (stamped) 2½ kreutzers.

Money-orders by post or telegraph up to 500 florins may be sent off at any post-office in Austria. Money-orders amounting to 5,000 florins can be sent by any post-office to Vienna, but subordinate offices are only entitled to send or receive 1,000 florins among each other.

The charges for money-orders are:

Description.	Charges.	Description.	Charges.
	Florins.		*Florins.*
Up to 5 florins	0.05	From 150 to 300 florins	0.30
From 5 to 50 florins	.10	From 300 to 500 florins	.50
From 50 to 150 florins	.20	From 500 to 1,000 florins	1.00

For every additional 1,000 florins or fraction thereof 50 kreutzers are added.

TELEGRAMS.

Besides the regular tax, the fee of delivery is from 15 to 50 kreutzers, according to distance. Another 10 kreutzers is charged for the written receipt. The taxes and rules for the postal commissions are the same as those of the universal postal union. Austria keeps up a very lively intercourse with all European and foreign countries by means of telegrams, letters, money-orders, etc.

PARCEL POST.

There may be sent by parcel-post without any royal prerogative: (1) All articles of value; (2) private letters weighing over 250 grams; (3) money, letters, and parcels containing money in bags, chests, barrels, etc.; (4) articles of freight, such as jewels, goods, furniture, small live animals, etc.; (5) all articles sent C. O. D.

Prohibited from transportation are such articles as are likely to be injurious to others, especially explosives. Taxes for parcels and letters containing money are affixed to both the weight and value, and are the same for Germany and Austria.

The tariff of postal rates for Austria-Hungary for parcels weighing up to 500 grams is: 10 miles, 12 kreutzers; 20 miles and upwards, 24 kreutzers.

Table showing postal tariff rates for Austria-Hungary and Germany.

Weight of parcels.	10 miles.	20 miles.	50 miles.	100 miles.	150 miles.	Over 150 miles.
	Florins.	*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*
5 kilograms	0.15	0.30	0.30	0.30	0.30	0.30
6 kilograms	.18	.36	.42	.48	.54	.60
7 kilograms	.21	.42	.54	.66	.78	.90
10 kilograms	.30	.60	.90	1.20	1.50	1.80
15 kilograms	.45	.90	1.50	2.10	2.70	3.30
20 kilograms	.60	1.20	2.10	3.00	3.90	4.80
24 kilograms	.72	1.44	1.58	3.72	4.86	6.00

Table showing charges on money letters (all distances).

Amounts.	Charges.	Amounts.	Charges.
	Kreutzers.		*Kreutzers.*
50 kreutzers	3	9 florins	18
1.50 florins	6	10.50 florins	31
3 florins	6	15 florins	40
4.50 florins	9	21 florins	45

In case of loss, the declared value of the article will be paid.

Each post-office is furnished with a mile-stone indicating the distances from it of all places in Austria and Germany.

The weight of an article sent by parcel post must not exceed 50 kilograms;* when post-paid, 6 kreutzers per kilogram is charged. In case of bulky goods, half the amount of the tax for weight is added to the ordinary tax.

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* 1 kilogram=2.2 pounds.

When articles are sent by express, the express fee and the regular messengers' fee are always to be paid in advance. Goods not delivered cost 15 kreutzers; delivered goods cost 30 kreutzers. These fees are the same whether the delivery is made at night or during the day.

The taxes for the delivery of parcels at Vienna and Prague are:

	Kreutzers.
Up to 1½ kilograms	5
1½ to 5 kilograms	10
Over 5 kilograms	15

Though the parcel post has had strong competition in the way of railroads and private undertakings, it has been steadily increasing. It does not pay, but has been retained for the convenience of the public.

Of late, in Vienna, Prague, and several other large cities the delivery of parcels without discrimination of weight, by means of carts expressly constructed for the purpose, has been successfully introduced.

The parcels are delivered at the home of the person to whom they are addressed.

TELEGRAPH FEES.

For each telegram a main charge is to be paid and an additional charge for words, as follows:

Description.	Main charge.	Charge for words.
	Kreutzers.	*Kreutzers.*
Local telegrams	12	1
Telegrams to any part of Austria-Hungary	24	2
Telegrams to Bosnia and Herzegovina	30	4
Telegrams to Germany	30	4

For telegrams to other countries the universal telegram tariff is used.

The fee for the sending or delivering of telegrams by telephone through subscribers to the State telephone amounts to 5 kreutzers.

The revenue of the telegraph before its union with the post was very weak, and is still so, but since that time a separate balance of the revenues and expenses no longer occur in the statistical estimate.

Austria has considerable intercourse with the United States through her postal and telegraph service, and lower telegraph rates should be agreed upon. Addresses on letters ought to be very exact; this fact can not be enjoined too forcibly.

The following is a statistical extract of the postal and telegraph affairs of the countries represented in the Austrian Parliament: Extent of territory, 300,024 square kilometers; number of inhabitants, 22,000,000; of general post-offices, 10; ordinary post-offices, 4,484; telegraph offices, 3,361.

The number of persons employed in the administrative service is 934; in the manipulation service, 21,440, of which 13,000 are State officers and 8,440 officers employed under contract.

The number of communications yearly amounts to 572,000,000 in all, divided thus:

	Number.
Letters	317,000,000
Postal cards	78,000,000
Printed matter	44,000,000
Samples	9,000,000
Business papers	1,000,000
Money orders	14,000,000
Packages sent C. O. D	3,000,000
Post commissions	260,000
Money letters	17,000,000
Parcels	19,000,000
Newspapers	70,000,000
Travelers	182,000,000
Telegrams	7,000,000

The yearly revenue and expenditures are as follows:

	Florins.
Total revenue of telegrams	27,000,000
Total expenditures	24,000,000
Net proceeds	3,000,000

The greatest revenue was that of lower Austria, with Vienna, viz, 36 per cent. of the whole.

TELEGRAPH APPARATUS.

The number of telegraph instruments in State use is 2,700 Morse, 106 Hughes, 5 multiplex, and 2 D'Arlincourt's translators; in railway use, 2,700 Morse; in private use, 147 Morse.

The number of railway trains used by postal service is 1,401 daily. The number of postal steamer lines on rivers is 27; the length of their course is 21,000 kilometers.

JULIUS GOLDSCHMIDT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, December 17, 1890.

CHANGES IN THE TARIFF OF SPAIN.

REPORT BY MINISTER GRUBB, OF MADRID.

I have the honor to inclose herewith a clipping, with translation, from the Official Gazette, being an open letter from the minister of finance to the Queen Regent, and a royal decree by Her Majesty pertaining to the new Spanish tariff, which goes into effect on January 1, 1891. The same may be of interest to the Department.

E. BURD GRUBB,
Minister.

UNITED STATES LEGATION,
Madrid, December 29, 1890.

THE MINISTRY OF FINANCE TO THE QUEEN REGENT.

[Inclosure 1 in Minister Grubb's report.—Translation.]

MADRID, *December 24, 1890.*

MADAM: In the midst of the extraordinary crisis now suffered by the customs tariff system of almost all the principal nations of Europe and America, Your Majesty's Government may commence the series of its labors with the two advantages of a programme prepared a long time since and of an ample legislative authorization.

National agriculture and cattle raising, impoverished by causes of a different character, overwhelmed by taxes, deprived of markets, threatened in the very centers of their productions by a formidable competition, solicit by incessant clamors the help of the State. Many industries claim, with evident justice, the tariff protection for their sustenance, without which the development of wealth and the formation of capitals, which are so scarce in the country, are impossible. The direction of ideas in both continents is almost universal towards the protectionist sense, and, with an irresistible push, drives governments to the adoption of energetic attitudes which may protect the economic and independent life of each nation against the assaults of individual and cosmopolitan doctrines. In such a situation there is no room for doubting which is the course to be followed without hesitation by the political men who in 1875 suspended the reductions of duties granted by the legislation of 1869, and in 1877 established the two columns of the tariff customs, and afterwards have unremittingly advocated the interests of national production.

Their convictions being so firm and their purposes so strong, the present ministers of Your Majesty would have undertaken the reform from the very moment they were called to the direction of public affairs if the legislative authorization, which, in favor of their doctrines they may avail themselves of, would not have been granted to them under the condition of having in mind the result of the inquiry which was being made and which has now terminated.

There is, besides, a difference to be established between the goods the tariff duties of which are agreed upon with other nations and those goods which are free from that condition. With reference to the former, the action of public power is already free, the solution proposed some time since, and general opinion prepared. With regard to the latter, it is deemed advisable, above all, to allow to the Government the greatest liberty for the future negotiations on denunciations, and, if the case happen on celebration of treaties of commerce, although designating at once through a general tariff of protection the limits of the tariff defense of agricultural, cattle raising, and industrial interests of Spain, the threat of new general reductions of duties must immediately and completely disappear.

The regulations contained in the basis 5 of the appendix C of the law of budget of revenues of July 1, 1860, the execution of which was suspended by the royal decree of June 17, 1875, and was re-established by the law of July 6, 1882, never had a logical foundation in the ground of doctrines and have been impractical in that of facts. The proportions between the value of articles and the prices quoted in the tariff, calculated by the average prices of the articles of importation most abundant among those of each generic group, constitute an empyric and arbitrary system, which, in many cases, is devoid of accuracy, having, besides, no scientific value. Articles, the value of which very considerably differ, are charged with an equal amount of pesetas duty when, for instance, a type of impost of 20 per cent. is fixed to one of them, whilst under that system the article worth the sixth part of that taken as a standard is charged with even more than 20 per cent., or 2 per cent. only on the article worth ten times more.

These defects are nevertheless much less important than the general sense of the plan founded on the doctrine that the question of agriculture and industry must not be considered by legislators as a direct interest of the nation, but must be submitted with indifference to the free influence of the general laws of economic facts, in virtue of which laws it is obvious that nations which do not know how to defend themselves are ruined, as is done by those which have not reached a degree of prosperity free from foreign competitions.

In order to realize what is at once possible and to be duly prepared for what requires more time and other proceedings, I have the honor to submit for Your Majesty's approval, by accord of the council of ministers, the inclosed project of a decree.

THE ROYAL DECREE.

[Inclosure 2 in Minister Grubb's report.—Tranlation.]

* * * * * * *

ARTICLE 2. From the 1st of January, 1891, the merchandise hereafter expressed shall pay to the customs the following import duties:

Articles.		Duty.
		Pesetas.
Geldings over the mark*	per head	180.00
Other horses and mares	do	135.00
Mules	do	80.00
Asses	do	12.00
Cattle	do	40.00
Hogs	do	20.00
Sheep, goats, and other animals not herein mentioned	do	2.40
Meats:		
Pickled and dry salted	per 100 kilograms	11.60
Pork and lard (bacon included)	do	50.00
Other kinds	do	18.00
Rice:		
Unhulled	do	5.30
Hulled	do	10.60
Wheat	do	8.00
Wheat flour	do	13.20
Other cereals in grain (millet excepted)	do	4.40
Flour of the above	do	7.15

* A horse must be 63 Spanish inches high to be considered as having the mark.

* * * * * * *

ART. 4. In the duties marked in article 2 there are comprehended those which, under the name of transitory, are now paid by merchandise therein mentioned.

ART. 5. The Government, having before them the propositions of the commission formed for the purpose of studying the tariff reform and the commercial treaties, will make and publish at its proper time the general customs tariff that is to be in force after February 1, 1892, and in which it is only afterwards that opportune alterations for the reduction of duties in reciprocity for advantages granted by other countries to the products and commerce of Spain can be made.

ART. 6. The Government will duly inform the Cortes of this decree, as well as of the general tariff that will be published.

RAILROAD CONSTRUCTION IN SIAM.

REPORT BY CONSUL-GENERAL CHILD, OF BANGKOK.

I have the honor to report that at last the Siamese will construct one, if not two, railways. The first will extend from Bangkok to Korat, a distance of 170 miles. This line has been surveyed by English engineers, and runs through a fine section of country. Inclosed I send you an announcement in regard to its construction, stating that work will be commenced early next year. As will be seen, the road-bed, bridges, etc., will be let out to the lowest bidder.

The road will be built almost entirely with money furnished by His Majesty King Chulalonkarn, who has contributed $10,000,000 out of the treasury for the purpose.

It would be well for some of our American manufacturers to put in bids for rolling stock, as our light locomotives are more suitable than the heavy engines of European make. It is asserted that ground will be broken and work commenced on this line next January, but that means some time next spring, if not later.

The Borapah Railway, from Bangkok to Patriew, of which I inclose a prospectus, extends a distance of 36 miles southeast of the city. About half of the money needed has been subscribed, but it is generally thought that nothing will be done towards building the line until the road to Korat has been commenced.

JACOB T. CHILD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Bangkok, October 20, 1890.

ROYAL SIAMESE STATE RAILWAYS.

[Inclosure in Consul-General Child's report.]

It is hereby notified for general information that tenders, in the form of a schedule of rates for each class of work required, will shortly be invited for the construction of the Royal Siamese State Railways from the capital of Bangkok to Bang-Pa-In, Ayuthia, Saraburi, and Korat, 268 kilometers. The works will be let out either in sections of from 70 to 100 kilometers or given to a general contractor.

The tenders will include all works and supplies necessary for completing the said railways, exclusive of the supply of permanent way and telegraph material, rolling stock, machinery, and furniture, which will be provided by the Royal Siamese Railway administration and delivered, when required, to the contractors in the depots at Bangkok and Ayuthia.

In every other instance the contractors are expected to supply themselves with all the necessary plant, such as tools, small railways for earth and other provisory transport, excavators, pumping and ramming machinery, etc.

Those intending to tender are advised to personally examine the line and the plans, which may be seen from January 1, 1891, at the office of the royal railway department in Bangkok.

The following figures represent, approximately, the amount of the principal works to be tendered for: Earth-works (stiff clay), 4,000,000 cubic meters; cutting in hard limestone rock, 200,000 cubic meters; retaining walls (rough rubble), 5,000 cubic meters; masonry in abutments, 50,000 cubic meters; timber for bridges, 8,000 cubic meters; fourteen stations, with wooden buildings, eleven of which are very small, etc.; weight of rails, 3 kilograms per meter; sleepers, teak or redwood (*mai deng*), 250 by 15 by 20 cubic meters.

The line runs for about 75 kilometers through the low, alluvial plain of the Meinam, on an embankment from 2 to 4 meters high, and is easily accessibly by water. From 75 to 136 kilometers the railway is accessible by land and runs nearly level with the ground. From 136 to 180 kilometers the line is only accessible by pack animals (bullocks), and that only during the dry season (December to July).

At 136 kilometers the line enters into valleys, along which it ascends to the table-land of Korat (300 meters above sea-level; summit, 394 meters), with gradients of 15 per *mille* and curves of 180 meters radius, through a splendid forest affording any quantity of wood, which may be cut for the construction free of charge. At 180 kilometers the table-land is ascended, and to Korat the line is again without any difficulties, with easy gradients and curves nearly level with the ground.

As regards the climate, it may be mentioned that in January the temperature in the mountains goes down to 50° F. during the night.

The time of construction is two years from the date of the agreement for the Bangkok-Ayuthia section and four to five years up to Korat.

By order of the minister of public works.

K. BETHGE,
Director-General.

THE INTEROCEANIC RAILWAY.

REPORT BY CONSUL LOUGHERY, OF ACAPULCO.

I inclose you an extract of a letter from Mr. Edmund B. Forbes, chief engineer of the Interoceanic Railroad, which may prove of interest.

R. W. LOUGHERY,
Consul.

UNITED STATES CONSULATE,
Acapulco, November 19, 1890.

CHIEF ENGINEER FORBES TO CONSUL LOUGHERY.

[Inclosure in Consul Loughery's report.]

November 10, 1890.

The Interoceanic Railway has been completed on the eastern side of Mexico as far as Jalapa, the last portion of the line having been opened on the 13th of last July. The works are being pushed forward with great energy to Vera Cruz, and the line will in every probability be opened to this town not later than the first of March of next year.

On the western side the line has been made and opened to Jajutla, a town which stands about 16 miles from Amacusac. It was originally intended to construct a line from Amacusac to Acapulco, but there is very little probability of it being made by this route.

The line to Acapulco, as now projected, will go by Pueblo, Atlixco, Matamoros, Chitla, Chiantlas, Chilpanzingo, Acahutzotla, Egida, and Acapulco. The permanent surveys will be started almost immediately, and the line will in all probability be in full work in the course of next year. The line is now opened as far as Matamoros, Iyucar, and is in course of construction to Chitla, a distance of 106 kilometers from Pueblo. The total distance from Pueblo to Acapulco will be 487 kilometers; Pueblo to Vera Cruz, 338 kilometers. The total interoceanic route will therefore be 825 kilometers, or 515 miles.

EDMUND B. FORBES,
Chief Engineer.

THE MACARONI INDUSTRY OF ITALY.

MACARONI MANUFACTURE.

REPORT BY CONSUL-GENERAL BOURN, OF ROME.

Macaroni is the *semoule* or flour of wheat moistened with water, kneaded until it assumes the requisite consistency, cut or pressed into the desired shape, and thoroughly dried. When wheaten flour is agitated in a large quantity of water, the starchy substances are dissolved, leaving a tough, fibrous mass, which is gluten. Gluten contains nitrogen, while starch does not; hence the *semoule* or flour that contains the most gluten is the most nutritious. As compared with gluten, starch has but little strength; hence macaroni that is rich in gluten is not only the most nutritious, but is stronger, thereby preserving its shape while being dried and cooked.

For the best macaroni, the hard, semi-translucent varieties of wheat grown in warm countries, which contain a large proportion of gluten, are used in the form of *semoule*; for the cheaper grades, common flour is used. Any intermediate grade can be made by mixing the two in various proportions.

There are no statistics which give the quantity of macaroni made in Italy; but, as it constitutes one of the chief articles of food, the quantity must be exceedingly great. There are many large establishments manufacturing it by steam-power, and probably many thousands operated entirely by hand-power and employing from three to five or six hands each. It is also an article of daily household production in a large proportion of Italian families. In the household the appliances are exceedingly simple—a smooth board, a piece of marble for kneading, and a common rolling-pin. One pound of flour is mixed with four or five eggs, moistened with hot water, kneaded a few minutes, and then rolled very thin with the rolling-pin. After drying on the kneading board for some 15 to 20 minutes until the surface loses its adhesiveness, it is rolled up tightly, and thin slices are cut from the ends. The slices, falling apart, constitute strings of macaroni, and are ready for use. It is readily seen that if macaroni be made in so simple a manner there may be many methods of manipulation between the household process and manufacturing with the most approved machinery.

Thousands of small factories are scattered throughout Italy, and are operated entirely by hand. The factory often consists of but one room, aside from the drying rooms, which is at the same time the factory and sales room. The proprietor, with one or two workmen, makes the macaroni, and the wife sells it. The machinery is inexpensive, and the hired labor costs from 30 to 60 cents per day, according to the locality. Artificial heat is seldom employed for drying, but the manufacture is often carried on in connection with the baking business. In this case the drying rooms would be above the ovens and warmed somewhat by the waste heat. The result is that these small establishments can successfully compete with the larger factories that are operated by steam-power. Their machinery generally consists of a mixer, a kneader, and a press.

The mixer may be described as a semi-circular trough having a hinged cover. Through the trough runs an iron shaft having a number of projecting arms, with a crank on one end. About 100 pounds of *semoule* or flour, or a mixture of both, according to the quality of the macaroni desired to be produced, is placed in wooden troughs that stand in front of the mixer. To this is added a sufficient quantity of water at about 160° F., containing, in solution, a small quantity of saffron to give the macaroni the desired color. It is then mixed by hand for a few minutes, in order to fairly distribute the water, after which it is put into the mixer. The lid being closed, a workman turns the crank for about twenty minutes, when the contents are found to be converted, by the action of the arms attached to the crank shaft, into a stiff dough.

From the mixer the dough is taken to the kneading table. This is made in a number of forms. One of the most common in the vicinity of Rome consists of a kneading plank about 40 inches long, 32 inches wide at the inner end, and 40 inches at the outer end, with sides to keep the dough from falling out. It is solidly made of hard wood 2½ to 3 inches thick, and firmly attached to the floor and wall. The kneading is generally done by two or three men with a long bar attached by a swivel joint to the wall back of the table. This bar is about 16 feet long, 10 inches deep next to the wall, and 3 inches at the other end. The part next to the dough is beveled to the shape of a blunt wedge with a rounded edge. The bar is worked up and down on the dough, and, being fastened at the rear end, exerts a tremendous crushing force. Being made of a tough, elastic wood, it both readily sustains the full weight of the men when pressed down and springs back above the dough sufficiently to allow it to be moved a little and brought down on another portion. This kneading continues for about twenty-five minutes, when the dough is ready for the press.

In some places the table is a straight plank about 8 to 10 feet long and 15 inches wide, with sides to hold the dough in place. The kneading is done by means of a drum, perhaps 4 feet in diameter and the width of the plank. It has cleats fastened to the rolling surface, and is worked forward and back by means of an upright capstan about 12 inches in diameter, with a rope coiled around it and around suitable mechanism on the drum.

As soon as the dough is in a suitable condition it is taken to the press, which consists chiefly of a cylinder perhaps 8 to 10 inches in diameter and 20 to 24 inches long, a plunger that fits accurately the interior, and a die plate that rests on a shoulder cast on the lower portion. The plunger is forced down by a screw, which is suitably connected by gearing with a crank operated by hand.

While one man mixes the dough, another turns the crank to press it, and the third takes the macaroni as it leaves the dies, cuts it into suitable lengths, and hangs it on light cane or bamboo sticks some 5 or 6 feet in length, ready to be carried to the drying rooms. The press is heated to perhaps 160° F. by means of a small pot of live coals that is placed inside the cylinder a few minutes before pressing begins.

Where a good quality of macaroni is made, extreme neatness is observed in every part of the operation. The mixing troughs, kneading tables, and cylinders are all scraped often. The dies are well washed after use and kept in vessels of clean water.

For each man employed about 175 to 200 pounds of macaroni per day are produced in these factories, and, at the rate of wages previously stated, the total expense for labor would, perhaps, not be over one-fourth to one-third of a cent per pound.

The large establishments are furnished with the most approved modern machinery and are operated by steam-power. Were not wages so low, they would have a great advantage over those operated by hand. They generally buy wheat and prepare *semoule* and flour, not only for their own use, but for the market. In this way they no doubt have advantages that overcome the small expenses of those that are operated by hand.

The largest macaroni factory in Rome is that of Michele Pantanella, in the Piazza dei Cerchi. It has four steam-boilers 7 feet in diameter and one compound engine with a Corliss cut-off and cylinders 26 inches and 45 inches in diameter and 48 inches stroke. The fly-wheel is grooved for sixteen round belts.

The establishment is supplied with modern machinery for the manufacture of *semoule* for macaroni and of flour. The daily consumption is about 600 quintals (60 tons) of wheat, of which about 400 quintals are used for flour and 200 quintals for *semoule*. Italian, Russian, and Indian wheats, according to quality, are used, for in each there are both the hard and the soft varieties. The hard variety is used for *semoule* and the soft for flour. Four different grades of *semoule* are made from the hard wheat, as well as flour. From the soft wheat six different grades of flour are made. Of the wheat named, the Italian grown in Apulia is the hardest and strongest, and, therefore, the best for macaroni. Foreign wheat is never bought for that purpose if Italian can be had. Wheat from Tagenrog is cheaper, is very strong and hard, but is apt to be too dark. Indian grain has a better color, but is weaker than the Russian or Italian. It is considered economical to buy the best and strongest, as good macaroni can not be made from soft or tender wheat.

The rollers for crushing wheat into *semoule* are from the manufactory of Ganz & Co., of Buda-Pesth. For cleaning the wheat, American cleaners made by How & Averill are used. The wheat passes through ten successive pairs of rollers, each pair being grooved smaller than the preceding pair, before it is crushed into the proper degree of fineness for *semoule*. The *semoule* must be hard, strong, granular, and entirely free from dust or flour. When the quality is right, the macaroni made from it can be boiled an hour without losing its shape or becoming soft. The characteristics of Neapolitan macaroni are its strength and its hardness. That made in this establishment is of the same quality and equal to the best Neapolitan. There is a demand in the vicinity of Rome for nearly the entire production of the mill. It sells readily because it is known that the quality is always the best.

From the floor above two measuring spouts run to each mixer, so that the quantity of *semoule* in each charge is uniformly the same. Hot water having a small quantity of saffron in solution is added, the quantity being accurately measured for each charge.

From the mixer the tough dough is taken to the kneader, where it is well kneaded. The bed of this machine revolves slowly, and the wooden bar above it is worked up and down on the dough with precisely the same effect as is produced by the kneading bar that is worked by hand. It is evident that this machine is but a development of the hand-kneading bar.

In this establishment, as in many others, the dough is still further kneaded by being passed a number of times through a pair of rollers, which are geared so as to automatically reverse their direction as soon as the charge has passed through either way.

The dough is now ready for the presses. These have double cylinders revolving on a central pivot, so that while one cylinder is in position the other is free to be cleansed and charged, ready, in its turn, to be revolved into its place in the press. The presses are operated by hydraulic power, the pressure being 3,600 pounds per square inch.

From the presses the long macaroni is carried on light bamboo sticks to the drying rooms. The small and fancy-shaped are dried on screens. These are wooden frames about 2 by 6 feet, covered with a coarse cloth so as to allow a circulation of air. A brace across the middle of the frame serves as a handle.

The small and fancy-shaped macaroni is made in horizontal presses. Cutters revolving more or less rapidly near the face of the die, according to the length required, cut it into any desired length. The rapidity of the cutters is regulated by a pair of cone pulleys.

The drying of the macaroni is the most difficult and delicate part of the manufacture and depends much on the state of the atmosphere. It is first dried in the open air, whether in the sun or shade depending on the temperature and dryness of the atmosphere, perhaps from half an hour to three hours. The time also depends somewhat on the size of the macaroni. It is then carried to a close, damp room to rest, where it remains, perhaps, twenty-four hours. If the room is not sufficiently damp, it must be kept so by artificial means—by small steam jets or by the evaporation of water. It is sometimes covered with cloths during this stage to prevent too rapid drying. This rest is a retarding process, and is intended to prevent the surface of the macaroni from drying too fast, or as fast as it naturally would, and to allow the interior to harden. If the macaroni is not put to rest at this stage, it is liable to crumble or split. When properly rested, the succeeding stages of drying proceed without difficulty. From the resting rooms it is carried to large, spacious rooms that have thorough ventilation, either natural or artificial.

Below is a price-list per 220.46 pounds of the various products, dated November 1, 1890:

Description.	Including octroi.	Excluding octroi.
Flour:		
No. 0	$9.07	$8.01
No. 1	8.11	7.04
No. 2	7.72	6.66
No. 3	7.33	6.27
No. 3 D	7.04	5.98
No. 4	6.85	5.79
No. 5	5.11	....
Bran	....	2.89
Fine bran	....	2.51
Semoule:		
No. 00	10.42	9.36
No. 0	10.04	8.97
No. 1	9.46	8.40
No. 2	8.68	7.62
Flour from hard grain	6.95	5.89
Macaroni:		
Finest	13.32	12.35
First quality (S)	12.16	11.19
Second quality (S)	10.42	9.46
Third quality (S)	8.30	7.33
Third quality	6.37	5.40

These prices do not include the price of the sacks or cases in which the macaroni, flour, *semoule*, etc., is packed. For export macaroni is packed in cases of 11 kilograms (24¼ pounds); for home consumption it is packed in cases of 60 kilograms (132.276 pounds). A charge is made for these cases, which is repaid when the cases are returned, as they generally are.

A kneading machine manufactured in Lyons is capable of kneading from 220 to 660 pounds at each charge. The horizontal bed on which the dough is placed revolves slowly. The large stone which stands vertically also revolves, thus crushing and kneading the dough, which must be continually cut and turned so as to subject every part to the kneading process. Among other machines manufactured in Lyons are: An upright hydraulic press, producing 330 to 440 pounds at each pressing; a horizontal press, producing from 110 to 130 pounds at each pressing; cutters for cutting the macaroni into suitable lengths, and a machine for glazing the small macaroni.

A mixer for mixing the flour and water is manufactured at the Factory and Foundry of St. George's, at St. Gall, Switzerland. The arms attached to the internal shaft do not show. The cover can be raised by a chain having counterpoise weights. To remove the charge, the cover is lifted and the drum of the mixer turned to such a position that the arms throw the dough into a proper receptacle.

The dimensions, capacity, price, etc., of the various sizes are as follows:

Size.	Dimensions.			Driving pulley.		
	Length.	Breadth.	Height.	Revolutions per minute.	Diameter.	Face.
	Feet.	*Feet.*	*Feet.*		*Feet.*	*Feet.*
No. 0	5.25	2.95	3.94	150	1.31	0.26
No. 1	6.56	3.94	4.59	120	1.71	0.31
No. 2	9.84	4.92	5.90	100	2.31	0.46

Size.	Horse-power required.	Net weight.	Capacity per hour.	Price.
		Pounds.	*Pounds.*	
No. 0	0⅙	882	176 to 220	$1[illegible]5.10
No. 1	0¼ to 0½	1,235	330 to 400	193.00
No. 2	0¾ to 1	3,638	550 to 660	356.00

A kneading machine manufactured at St. Gall has a surface of hard wood, and the kneading stone has on its surface alternate smooth and serrated bands. It is furnished, when required, for cutting the dough, after it passes under the kneading stone, into three strips and turning two of them on to the central strip. This avoids the cutting and turning by hand, which always involves more or less of danger. It is intended to partly knead the dough in this machine and to complete the operation in the roller kneader, or it can be kneaded in the rollers directly from the mixers. The first takes place when the press cylinders to be charged are of small diameters, and when it is desired to lighten the work of the rollers; the second, when the presses have large cylinders, which can be charged with large pieces of dough.

The dimensions, capacity, prices, etc., of these kneaders are as follows:

Description.	Machine.		Stone.		Driving pulley.		
	Diameter.	Height.	Diameter.	Face.	Revolutions per minute.	Diameter.	Face.
	Feet.	*Feet.*	*Feet.*	*Feet.*		*Feet.*	*Feet.*
Without stone	7.20	9.18	....	....	60	2.59	0.36
With stone, in marble	....	....	4.92	0.98	....	....	....

Description.	Horse-power required.	Net weight.	Capacity per hour.	Price at station in St. Gall.
		Pounds.	*Pounds.*	
Without stone	1	4,188	330 to 440	$289.50
With stone, in marble	....	3,306	....	86.85
Automatic cutter and turner	....	165	....	28.95

A roller kneading machine, or refiner, is worthy of note. This serves to knead the dough from the kneader until it acquires the consistency and homogeneousness needed for the presses. This machine is very solid and entirely of iron. A hand-wheel serves to raise or lower the rolls as required. The rolls are kept clean by means of an apparatus working automatically, and their travel is reversed each time the charge passes through. The builders claim that a greater compactness of the dough can be obtained by using the roller kneaders.

Two machines have a double gearing. The driving gear has wooden teeth to lessen the noise. Another machine is composed of two machines of class 1, having the tables bolted together, the dough passing from one machine to the other.

The dimensions, capacity, price, etc., are as follows:

Description.	Machines.			Rollers.	
	Length.	Width.	Height.	Diameter.	Length.
	Feet.	*Feet.*	*Feet.*	*Feet.*	*Feet.*
No. 1, with cast-iron frames	6.23	4.59	5.25	0.80	2.13
No. 2, with cast-iron frames	4.92	3.93	4.92	0.69	1.38
No. 3, No. 1 double	6.56	9.84	5.25	0.80	2.13
No. 4, with cast-iron frames	6.89	4.59	5.25	0.69	1.38
No. 5, with wooden frames below the table	4.59	3.28	4.59	0.49	1.12

Description.	Driving pulley.			Horse-power required.	Weight of machine.
	Revolutions per minute.	Diameter.	Face.		
		Feet.	*Feet.*		*Pounds.*
No. 1, with cast-iron frames	200	1.31	0.36	1½ to 2	3,197
No. 2, with cast-iron frames	85	1.84	0.33	0¾ to 1	1,764
No 3, No. 1 double	200	1.31	0.36	3 to 4	5,798
No. 4, with cast-iron frames				(*)	1,433
No. 5, with wooden frames below the table				(*)	728

Description.	Capacity per hour.	Price at station in St. Gall.
	Pounds.	
No. 1, with cast-iron frames	176 to 198	$318.45
No. 2, with cast-iron frames	88 to 110	250.90
No. 3, No. 1 double	353 to 397	617.60
No. 4, with cast-iron frames	33 to 44	214.23
No. 5, with wooden frames below the table	22 to 26	115.80

*Operated by hand.

Hydraulic presses having one and two cylinders are claimed by the manufacturers to cost less, in proportion to the production, than the screw presses, and that they have many other advantages. They claim that a hydraulic press will produce more than two screw presses of the same dimensions, requires less attention from the workmen, less power to operate, and has almost no parts to get out of order. This establishment produces five different sizes of presses. Nos. 1 and 2 are exclusively used for the production of long macaroni and vermicelli. The cylinders can be revolved on their supports, so that one can be charged while the other is in use. Before the production begins the charge is compacted. The cylinders are heated by steam-jackets. No. 3 is constructed similar to Nos. 1 and 2, except that it is horizontal. It is furnished with cutting apparatus for the manufacture of short and fancy-shaped macaroni. Nos. 4 and 7 can be used for making all the varieties of macaroni, and are furnished with a cutting apparatus that can be detached when not in use. The cylinders are arranged to be heated with either steam or gas. In all the sizes the piston is raised by hydraulic power faster than it descends. By means of a lever a boy can control its ascent and descent, or can stop it at any point. There is also an automatic apparatus that stops the piston at its extreme positions.

The dimensions, capacity, price, etc., of the various sizes are as follows:

Size.	Cylinders.		Horse-power required.	Net weight of machine.	Hourly product.	Cost.
	Number.	Capacity.				
		Pounds.		*Pounds.*	*Pounds.*	
No. 1	2	154	2½ to 3	17,637	330 to 375	$1,351.00
No. 2	2	55	2 to 2½	11,023	176 to 220	965.00
No. 3	2	53	2 to 2½	10,580	176 to 220	965.00
No. 4	2	13⅔	1½ to 2	5,512	136 to 154	1,042.20
No. 5	1	13⅔	7½	3,068	66 to 77	482.30
No. 6	1	4⅜	1 to 2½	2,271	26 to 33	289.50
No. 7	1	4⅜	(*)	1,949	18 to 22	270.20

* Works by hand.

The screw presses built by this concern are entirely of iron, very solid, easy to put in operation, well proportioned, and need simply to be heated either by gas or steam as required. They are supplied with a detachable automatic cutting apparatus for small macaroni. The movements of the piston can be controlled at will, as in the hydraulic presses.

The dimensions, capacity, price, etc., of the various sizes are as follows:

Size.	No. of cylinders.	Weight of press.	Hourly product.	Price at station at St. Gall.
		Pounds.	*Pounds.*	
No. 1	2	4,189	55 to 66	$482.50
No. 2	1	3,527	26 to 33	386.00
No. 3	1	3,307	22 to 26	347.40

Various styles of macaroni, vermicelli, etc., are produced by the molds made at this establishment. The dies are made of the best bronze, which, it is claimed, are much superior to copper, as they support greater pressure and are less liable to injury from accident. They allow a greater space around the openings than the copper, and can therefore be more easily cleaned. The makers therefore claim that they should be preferred to those in copper, even at the increased price.

The prices of the various patterns and sizes are as follows:

Description.	Diameter.			
	0.295 foot.	0.384 foot.	0.656 foot.	0.984 foot.
Ordinary molds	$5.79	$10.61	$25.09	$19.30
A, B, C figures	10.61	19.30	42.46	....
The chase, game, and five figures	18.33	38.60	....	....
Vermicelli, etc. (average)	2.90	3.86	7.72	13.51
Souvenir pour plaques	2.90	4.82	9.65	17.37

Messrs. Girardi & Bertinelli, of Turin, make a mixer which is constructed entirely of iron. In this apparatus, as in the others of a similar construction, it is simply necessary to place the proper quantity of *semoule* and water in the drum, close the cover, and start the machine. In from seven to ten minutes the charge is sufficiently moistened to be removed to the kneaders. By means of the crank and attachment the drum can be revolved into such a position that the contents are thrown into a proper receptacle when the cover is opened.

The capacity of the various sizes per charge is as follows: No. 1, 330 pounds; No. 2, 220 pounds; No. 3, 88 pounds.

A kneading machine with three cones, made by the same firm, is claimed by them to be much superior to the old styles, both in the quality of the macaroni produced and in the economy of labor. They say that one man with this kneader can prepare 330 pounds of dough for the press in less than twenty-five minutes, and can supply two hydraulic presses having cylinders with a capacity of 330 pounds at each charge. Mr. Maglia Antonio, a large macaroni manufacturer in St. Michael, Savoy, has, besides several screw presses and kneaders with two cones, one of this pattern and two hydraulic presses, each with a capacity of 330 pounds, and one mixer of the same capacity. These last-mentioned machines, operated by only three workmen, produce, on an average, 5,280 pounds daily, and under favorable circumstances as much as 6,600 pounds of the very best quality of macaroni, which has received premiums at numerous exhibitions. The machine is very solidly constructed, not liable to get out of order, and not dangerous to operate. It is furnished with apparatus for automatically cutting and turning the dough. The kneading table is 6.6 feet in diameter. The entire machine weighs 7,050 pounds.

They also make double and single screw-presses. The one weighs about 3,750 pounds, and has a capacity of 77 pounds at each charge. With a capacity of 110 pounds, it weighs 4,450 pounds; the other is constructed with capacities of 66, 77, 88, or 110 pounds. The time occupied for pressing each charge is from fifty to seventy minutes. This style can be arranged to be operated by power or by hand. If the cylinder has a capacity of 48½ pounds, it can be furnished with a cutting apparatus for making the fancy-shaped macaroni. With cylinders of from 66 to 88 pounds capacity the press weighs 2,870 pounds, and with a capacity of 110 pounds it weighs about 3,350 pounds.

Another machine represents a hydraulic press with its pump. The capacity is 330 pounds, and the time required for a pressing about sixty-five to eighty minutes. With but one man to attend it, there can be produced eight pressings, or about 2,640 pounds daily. The pressure required is about 250 atmospheres. The piston is raised by hydraulic power and is stopped automatically at its extreme points. The weight is about 12,550 pounds.

Another is a horizontal screw-press. It is built in two sizes. No. 1 has a capacity of 44 pounds, and weighs 1,984 pounds. No. 2 has a capacity of 31 pounds, and weighs 1,896 pounds. The time required for a pressing is thirty-five to forty minutes.

Through the kindness of Messrs. Luciano and Campo, of Turin, manufacturers of the most approved macaroni machinery, I have been furnished with drawings of the machinery and estimates of cost for establishments capable of making, respectively, 10, 15, and 20 tons of macaroni daily. These estimates are based on the supposition that the macaroni is to be equal to the best Neapolitan, and that the daily production of the long and assorted kinds shall bear about the same relative proportion to each other as is customary in Naples and in the large manufactory of Mr. Michele Pantanella, at Rome.

Messrs. Luciano and Campo have also furnished me with a plan of an establishment designed by them at Foggia, and which is furnished with their machinery, capable of producing daily 10 tons of macaroni. There is also a bakery operated in connection with the manufacture of macaroni. The main building is 197 feet long and 52½ feet wide. It has additions at either end and courts. The macaroni machinery is on the ground-floor and occupies most of it. The remainder serves for placing the long macaroni on canes and the short on frames, preparatory to being removed to the drying terraces and courts, which are in part covered and in part exposed to the air. After reaching there, the first stage of drying, the long macaroni is put to rest, which consists in softening it again to give it that character and establish that capillary state that only Neapolitans have found out and applied in the drying. By this, with the good quality of the *semoule* employed, they have rendered it so famous. After this operation the drying is completed in the various large rooms on the floors above the machinery. From 15 to 20 horse-power are required in this establishment.

Messrs. Luciano & Campo are prepared to furnish plans and estimates for establishments and machinery capable of producing any given amount of macaroni. They send a competent mechanic to set up and start the machinery, charging for his services $2.89½ per day, besides his board and railway fares. The terms of payment are one-third with the order, one-third on delivery, and one-third three months thereafter. For the machinery to produce 10 tons per day about eighteen weeks after the receipt of the order and the first installment are required; for 15 tons, about twenty weeks; and for 20 tons, about twenty-two weeks.

Estimates for machinery for producing 10 tons daily.

Description.	Weight of each.	Cost of each.	Total cost.
	Pounds.		
2 boilers with steam currents for heating the water used	....	$106.15	$212.30
2 mixing machines for previous moistening of the *semoule*	1,984	206.51	413.02
2 kneading machines with rollers for refining the dough	5,732	476.71	953.42
4 kneading machines with bars	5,291	405.30	1,621.20
4 presses with oscillating cylinders for long macaroni	14,109	1,138.70	4,554.80
2 presses with oscillating cylinders for the same, but thinner	7,937	617.60	1,235.20
2 presses for small assorted macaroni, with automatic cutters	9,921	868.50	1,737.00
2 press cutters	....	111.94	223.88
1 centrifugal ventilator	....	77.20	77.20
Total	....	....	11,028.02

Estimates for machinery for producing 20 tons daily.

Description.	Weight of each.	Cost of each.	Total cost.
	Pounds.		
3 boilers with steam current for heating the water used	....	$106.15	$318.45
4 mixing machines for previous moistening of the *semoule*	1,984	206.51	826.04
4 kneading machines with rollers	5,732	476.71	1,906.84
6 kneading machines with bars	5,291	405.30	2,431.80
6 presses for long macaroni	14,109	1,138.70	6,832.20
4 presses for long, thin macaroni	7,937	617.60	2,470.40
4 presses for small assorted macaroni, with automatic cutters	9,921	868.50	3,474.00
3 press cutters	....	111.94	335.82
1 centrifugal ventilator	....	96.50	96.50
Total	....	....	18,692.05

Estimates for machinery for producing 15 tons daily.

Description.	Weight of each.	Cost of each.	Total cost.
	Pounds.		
2 boilers with steam currents for heating the water used	....	$106.15	$212.30
3 mixing machines for moistening the *semoule*	1,984	206.51	619.53
2 kneading machines with rollers	5,732	476.71	953.42
6 kneading machines with bars	5,291	405.30	2,431.80
5 presses with oscillating cylinders for long macaroni	14,109	1,138.70	5,693.50
4 presses with oscillating cylinders for long, thin macaroni	7,937	617.60	2,470.40
3 presses for small assorted macaroni, with automatic cutters	9,921	868.50	2,605.80
2 press cutters	....	111.94	223.84
1 centrifugal ventilator	....	77.20	77.20
Total	....	....	15,287.53

The exports of macaroni from Italy for the year 1890 have been as follows:

Whither exported.	Quantity.	Whither exported.	Quantity.
	Quintals.		*Quintals.*
Austria-Hungary	1,842	Egypt	171
Belgium	32	Tunis and Tripoli	210
France	571	Algeria	106
Germany	130	United States and Canada	1,376
Great Britain	290	Argentine Republic	684
Greece	41	Uruguay	47
Holland	31	Other countries	552
Switzerland	556	Total	*6,730
European Turkey	59		
English Asiatic possessions	32		

* Equal to 673 tons of 2,204.6 pounds; value of the same, $63,645.61.

AUGUSTUS O. BOURN,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rome, December 27, 1890.

MACARONI INDUSTRY OF CASTELAMARE.

REPORT BY COMMERCIAL AGENT WOOD.

The two principal places of production are Torre dell' Annunziata and Gragnano.

Torre dell' Annunziata, a commercial town of 21,000 inhabitants, carries on a large trade in corn, flour, and macaroni, producing about 20,000 tons of the latter per annum—10,000 tons for consumption and a like amount for exportation. The wheat from which the macaroni is made comes from the Black Sea, and costs 25 lire per 100 kilograms, or $4.83 per 220 pounds.

Gragnano has a population of 13,800, and produces about the same amount as Torre dell' Annunziata; it is made from hard Italian wheat.

Macaroni is made in factories and in houses of the makers. The labor employed is mostly hand labor, and the rate of wages per day for skilled and unskilled labor averages 60 cents.

It is exported principally to New York, New Orleans, London, Alexandria (Egypt), and Constantinople.

The greatest amount goes to New York. The amount exported to the United States from this district for the year ending June 30, 1890, was 261,880 boxes, containing 6,547,000 pounds, and amounting to $321,479.50.

A. M. WOOD,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Castelamare, August 7, 1890.

THE MACARONI INDUSTRY IN GENOA.

REPORT BY CONSUL FLETCHER.

KIND OF WHEAT USED.

Russian and Bombay wheat is almost exclusively used in the manufacture of macaroni.

COST OF WHEAT IN FACTORY.

The cost, duty included, is: For Russian, 23 to 24 francs per 100 kilograms; for Bombay grain, 22 to 23 francs per 100 kilograms.

NUMBER OF FACTORIES.

There are about fifty macaroni factories in this consular district. Very little is manufactured outside, and none whatever for export.

NUMBER EMPLOYED, AND WAGES PER DAY PER HEAD.

There are about fourteen hundred people constantly employed in the manufacture of macaroni. The wages paid each laborer averages 70 cents per day.

HOW MANUFACTURED, AND THE COST PER 100 KILOGRAMS.

The process of manufacturing macaroni is a simple one. The wheat is cracked—not ground to flour—and the husk removed. The broken kernels are then placed in a special receptacle and a certain quantity of water poured thereon. No other ingredient enters into the article, except, occasionally, a little saffron to give color to certain brands.* When properly saturated—fifty minutes being usually allowed for this purpose—the soft mass is run through certain machinery, that all the kernels may be crushed, after which it is pressed through different kinds of molds, either by steam or water power, with the result that it comes out therefrom in the many forms of macaroni offered for sale. All shapes, fine or coarse, in pipes or flat, or in any other form, go under one name in Genoa, to wit, "paste." The cost of production is $1.15 per 100 kilograms.

TIME CONSUMED IN DRYING OR CURING MACARONI.

Granted favorable weather, macaroni can be dried and ready for the market or for packing in ten days; if damp weather, fifteen days.

HOME CONSUMPTION.

At a moderate estimate about 10,000 kilograms, or about 22,040 pounds, of macaroni are consumed in this consular district daily.

EXPORTATION.

Macaroni is packed in wooden boxes, each box holding from 8 to 11 kilograms. Half-boxes are also made and filled to order. During the year ended June 30, 1890, there were shipped to the United States from Genoa 342,795 kilograms of macaroni at a cost of 12 cents per kilogram. In round numbers, then, the United States paid the Genoese $41,135.43 for paste during the year ended June 30 last. Brazil purchases about 6,000 cases per month; the Plate country, about 800 cases per month; England, about 250,000 kilograms per annum, of a very fine quality. Granted that each box or case sent to Brazil and to the countries along the Plate contains 10 kilograms, the annual exportation of macaroni, then, from this consular district sums up as follows:

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*Saffron is mixed in all macaroni shipped to Brazil.

	Kilograms.
To South America	816,000
To the United States (annual average)	342,795
To England	250,000
Total	1,408,795

AMOUNT MANUFACTURED PER ANNUM.

In order to find out the amount of macaroni manufactured in this district annually, it is only necessary to multiply the number of kilograms consumed daily (as given elsewhere) by the number of days in the year, then to the product add the amount exported:

	Kilograms.
Daily consumption 10,000 kilograms × 365	3,650,000
Amount exported	1,408,795
Total	[*]5,058,765

PRICES PAID FOR MACARONI.

The prices paid for macaroni are as follows: For home consumption, about 11 cents per kilogram; shipped to the United States, about 12 cents per kilogram; shipped to Brazil, about 16 cents per kilogram; shipped to England, about 14 cents per kilogram. These prices include cost of boxes and delivery on board ship.

DUTY AND REBATE.

The Government and municipal duty on wheat amounts to 5 francs per 100 kilograms. For every 100 kilograms of macaroni exported the shipper thereof has 5 francs returned to him.

COST OF MACHINERY.

The machinery in the different macaroni factories here varies in prices; some cost $5,000 and some as high as $8,000.[†]

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[*] Equal to 11,149,584 pounds.

[†] I regret that I can not send drawings of the machinery used. On previous occasions I have procured such for parties interested in the macaroni industry in the United States; but the firm of E. Cravero & Co., extensive workers in iron and wood at Foce, near Genoa, seems weary of granting my frequent requests, and will not reply to my last demand.

IMPORTANT NOTE—AMERICAN WHEAT.

Mr. F. Ravano, of Quinto, a village about 5 miles from Genoa, has just informed me that he uses American wheat extensively in the manufacture of macaroni for home consumption.

JAMES FLETCHER,
Consul.

UNITED STATES CONSULATE,
Genoa, July 23, 1890.

MACARONI IN LEGHORN.

REPORT BY CONSUL RICE.

Macaroni and other similar alimentary pastes are manufactured from hard wheat obtained from Russia and India. The cost, delivered here, is from $4 to $5 per 224 pounds, including duty.

The manufacture is exclusively carried on in private factories, of which there are twenty-seven in Leghorn, all driven by steam-power and producing daily about 24,000 pounds of macaroni.

The total number of workmen employed is, as near as can be ascertained, three hundred and thirty, and their pay varies from 40 to 80 cents per diem.

There is very little exportation of the article from Leghorn, the quantity manufactured here being consumed in this neighborhood. The Italian Government returns the duty paid on wheat for all pastes exported.

The process of manufacturing macaroni pastes is as follows: In the first place, the grain is ground not too finely; it is then mixed with water in the proportion of 16 pounds of water to every 30 pounds of flour; it is then transferred to a marble receptacle with a wheel of the same material revolving within it, which reduces the paste into dough in the space of one hour, when it is ready to be placed in the machines, where it is immediately turned into the different pastes as desired. It is then placed upon canvas to dry, which usually occupies from eight to ten days, to allow its becoming thoroughly hard.

I inclose herewith a pamphlet showing one hundred and twenty-nine varieties of macaroni manufactured here and two drawings of machinery used for making the smaller varieties of pastes, as well as the long ones, which can be cut into any lengths desired.*

WILLIAM S. RICE,
Consul.

UNITED STATES CONSULATE,
Leghorn, September 4, 1890.

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* Inclosures not considered necessary for publication.

MACARONI MANUFACTURE.

REPORT BY CONSULAR AGENT VERDERAME, OF LICATA.

The manufacture of macaroni, which may be regarded as the chief industry in south Italy and Sicily, gives a livelihood to a great class of laborers, and it is in fair progress all over the Kingdom.

It is impossible to state exactly the quantity of this food consumed in Italy and exported abroad, because it is far too difficult to make the precise statistics on the production.

Should any statistics be obtained from the authorities, I would reckon the same as not very reliable, for two simple reasons, viz, the quantity exported can never be precisely valued, because captains of vessels leaving for the United States, France, Austria, etc., take on board, for their own account, large quantities of macaroni, which are declared at the custom-house for ships' use, but in reality are intended for sale abroad.

The amount of the house consumption is still more difficult to be ascertained, for the simple reason that not only the smallest country places, but even many private families, provide themselves daily with this article for their own consumption.

I am not far from the mark in stating that the consumption of macaroni in Sicily is to be rated at half a pound per head daily.

This staple food is cheap and wholesome, and, as it can be cooked in many fashions, it is largely consumed by the poorest, as well as by the richest, families.

The quantity going abroad is also very great, the use of macaroni becoming every day more generalized along the Mediterranean coast, in South America, and wherever there are Italians.

The Italian Government, with the aim of helping this industry, refunds to the manufacturers three-fourths of the duty collected on the foreign grain consumed in making the macaroni exported, and, nevertheless, I have heard many complaints about the decreasing export to the United States, where Italian manufacturers are rapidly losing ground on account of the home production.

Macaroni making requires neither great means nor great skill, and this has rendered the industry so generalized throughout Italy.

The largest quantity is produced by hand-presses, which, by the work of two men—one for working the wheel and the other for cutting the macaroni—can give a production of about 150 kilograms every twelve hours and a profit of 3 to 5 francs.

But macaroni thus made is generally of inferior quality and intended for sale after a few hours still in a moist state. Such presses are often planted in the house of the manufacturer, composed of a single room on first floor, which is generally used as bedroom, factory, and shop. The good quality of macaroni for export trade depends totally on the water and the flour used, and principally upon skillfully curing it. Water containing calcareous substances must be avoided; the purest water is good, but when it contains a little carbonate it is still better.

The flour must be of very clean, hard wheat.

The mode of manufacture in use is to knead the flour thoroughly with a little water (in summer fresh and in winter a little hot) until it is reduced to a tough paste; then, without loss of time—for in hot climates the paste soon turns sour—it is pressed slowly through the holes of the frame into macaroni, which, when about 1 yard in length, is cut out and put hanging by the middle on reeds and exposed to the open air.

In this state they are sold by the small factories for prompt consumption.

In order to obtain a good quality of macaroni for export purposes, viz, fit to keep fresh for a long period, great skill and time ought to be employed, as they require to be thoroughly cured (dried up). This work can be done in the large factories only, which are provided with sufficient means for keeping the production in store ten to thirty days, according to the weather.

After having been exposed to the open air as above stated, the macaroni is taken back to a moist room, called hot-house, from which the air is carefully excluded, and kept there until the dampness has rendered the macaroni tube entirely straight again. They are afterwards removed to other rooms, and are more or less ventilated, according to wind, moisture, heat, etc., until totally dry.

Licata, with a population of 20,000 inhabitants, has eighteen hand-presses which work exclusively for the town consumption and a large factory working for export purposes.

This factory, owned by Messrs. Michel Verderame & Co., is provided with the latest gearings and improvements, and, as all the work is done by steam-power, a great deal of hand-labor is economized. The daily production, amounting to 15 to 20 cwts. of excellent macaroni, is no longer sufficient to satisfy the great demand from all the Sicilian cities, and the owners intend to enlarge their works. This factory is provided with skillful laborers, to whom no fixed salary is assigned, but by contract they are paid at the rate of 2 francs per 100 kilograms of macaroni produced. The foreman employed for drying the macaroni is paid extra, receiving a salary of 5 francs per day.

The price of the flour, free of expenses on railway track, is 31 francs per bag of 100 kilograms, and, the macaroni being sold at 37 francs per 100 kilograms, there is a difference of 6 francs, from which deduct 2 to 3 francs for expenses, and there remains still a handsome profit.

It is proper to state that many consumers like to have the macaroni of a yellowish color, which ought to be given by mixing in the water a little saffron; but, this being too expensive, generally the crome-yellow (called macaroni color) is used.

ARTHUR VERDERAME,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Licata, August 26, 1890.

MACARONI IN MARSALA.

REPORT BY ACTING CONSULAR AGENT STEELE.

In this district macaroni is made entirely for local consumption, and is made from the best wheat flour. Female labor is employed to a great extent for handling the flour, and men do the heavy work of pressing the paste through the different-sized holes to form the strings, which are then hung up on canes to dry before sale. The women receive from 15 to 20 cents per day and the men from 35 to 45 cents.

The macaroni is generally made in a room adjoining the shop where it is sold. It would be impossible to form an idea of the quantity made annually, especially as many families make their own macaroni at home. Besides the native-grown wheat, they use that imported here direct by sea from Malta and Tunis and a good deal comes from Trapani by rail, to which place it is imported from Black Sea ports. During the last year 1,493 quarters of wheat, valued at $13,860, were imported by sea from Malta and Tunis; of this quantity, six-sevenths came from Malta, and would, no doubt, be of Russian origin, and one-seventh from Tunis. The quantity received from Trapani can not be arrived at.

During 1889 no macaroni was exported from here by sea, and none has been sent to the United States since August 1888, when 200 kilograms were exported, valued at $24.23.

THOMAS STEELE,
Acting Consular Agent.

UNITED STATES CONSULAR AGENCY,
Marsala, June 26, 1890.

MACARONI INDUSTRY OF MESSINA.

REPORT BY CONSUL JONES.

In Messina several varieties of wheat are used in the manufacture of macaroni, viz: Sicilian wheat, quoted at from 23.50 to 24 francs per 100 kilograms; Timilia wheat, quoted at from 22.50 to 23 francs per 100 kilograms; and imported varieties, Bombay and Taganrog, quoted at 22.50 francs per 100 kilograms. All wheat from the Black Sea goes by the name of "Taganrog." The best wheat is the Francesca, or Sicilian, wheat. It is very hard, and the harder the wheat the greater the quantity of "semola" (the fine, hard parts of wheat rounded by attrition in the mill) and the better the quality of macaroni. It contains 20 per cent. of nitrogenous matter, and does not suffer from the spring droughts. It was largely exported to France prior to the abrogation of the treaty of commerce between that country and Italy in 1888. The mode of manufacture is as follows: One hundred kilograms of semola and 15 kilograms of water are worked into a dough and passed through perforated plates of different patterns.

There is one steam macaroni factory in Messina (capacity, 60 quintals per twelve hours). In this establishment, after the wheat has been washed, ground, and sifted, the semola is put in an iron vat and stirred, as the water is added, by thin iron fingers attached to an axis that runs through the vat, which revolves by steam-power. The dough is then placed on a round iron table that revolves slowly under two stationary plated iron rollers (truncated ones) that revolve on their own axes, which knead the dough. The diameter of the bases of the two cones is, respectively, 6 and 12 inches. The dough is next placed in iron cylinders, and, by a piston worked slowly by a screw, is made to pass through perforated bronze disks and shaped into different forms and patterns according to the perforations in the disks. In making up the dough tepid water is used in summer, slightly warm water in winter. The macaroni, as it is taken from the press, is hung up to dry in well-ventilated rooms for two days, if for home consumption, and two weeks, if for exportation. This factory employs girls at 10 cents a day to hang up the macaroni to dry.

When macaroni is made by hand (steam factories are exceptions), the dough is kneaded with a long wooden lever (a 6-inch wedge-shaped scantling 10 feet long), which three or four men alternately raise and bring down with force on the dough as they describe a half-circle, thus preventing the lever from falling twice on the same place. The screw of the pressing piston is run down either by a gearing worked by a lever or by a gearing worked by a large wooden tread-wheel that revolves under the weight of active twelve-year-old boys.

A certain amount of machinery being indispensable in the manufacture of macaroni, the makers never undertake to make it in their small, over-crowded rooms. Some families, however, make "pasta di casa" with wheat flour, but for home consumption only. When wheat is washed, it absorbs an amount of water equal to one-eighth of its weight. No yeast is used in making up the dough. The cost of making macaroni by hand is twice as great as by steam. Men get from 40 to 50 cents a day for their work; girls, from 10 to 12 cents.

No macaroni is exported from this district to the United States. Last year 300 kilograms of macaroni were shipped from Messina to Egypt. In Messina macaroni is worth 45 francs per 100 kilograms (4 cents a pound).

It is impossible to state, even approximately, the amount of macaroni consumed in Messina, smuggling in semola being extensively carried on to avoid the octroi duty.

WALLACE S. JONES,
Consul.

UNITED STATES CONSULATE,
Messina, February 22, 1890.

NAPLES MACARONI INDUSTRY.

REPORT BY CONSUL TWELLS.

The raw material which enters into the manufacture of macaroni is hard wheat, which contains a large percentage of gluten, and is imported into Italy principally from Odessa and Taganrog. Italian wheat is also used, but is more expensive. Imported wheat costs from 24 to 26 lire per quintal.

The wheat is first ground into a coarse meal, from which the bran is removed; the wheat in that state is called "semola," and heat and humidity are necessarily employed during the grinding to ensure a good semola.

The semola is mixed with boiling water and worked into a dough, requiring twenty-five minutes, if worked by hand, and fifteen minutes, if worked by machinery, which nearly all of the manufacturers use at present. The dough is then forced through gauges, with or without mandrels, to give it the proper shape.

When the macaroni is cut to the required length, it is hung on rods and placed in the sun or wind for from two to four hours, according to the season. Then it is placed in damp cellars for twenty-four hours and finally for one day in the sun to dry, after which it is put in paper and packed in boxes. Macaroni is made in factories along the coast of the Bay of Naples, at Sorrento, Gragnano, Amalfi, and other places in the vicinity.

Every factory employs from ten to twenty men at a cost of 1.50 to 2 lire per day for each man. A machine, called the "impastratrice," is used by the principal manufacturers. It was invented by Pietro Albano, who has an iron foundry in the neighborhood of Naples. With it the dough can be worked in fifteen minutes, employing one man at 1.50 lire per day, which work, if done by hand, would require four men and twenty-five minutes to accomplish it.

Two-thirds of the macaroni manufactured is consumed at home, and the balance is exported to the United States, England, Holland, Switzerland, and other parts of the world. One-half of all that is exported, however, goes to the United States.

The total quantity of macaroni exported from this consular district amounted, for the first six months of the year 1889, to 2,238,044 kilograms, valued at $223,804.

JOHN STEEL TWELLS,
Consul.

UNITED STATES CONSULATE,
Naples, August 11, 1890.

THE MACARONI INDUSTRY OF PALERMO.

REPORT BY CONSUL CARROLL.

THE RAW MATERIAL.

The raw material (so-called) entering into the manufacture of macaroni is "semola," or semolino, that is, "the fine, hard parts of the wheat, rounded by attrition in the millstones," which ensue after the elimination of the farina and bran from the grain ground with that view. The most indurated or hardest grain to be found is used in the manufacture of macaroni, especially when intended for exportation.

The wheat production of Sicily being inadequate to the demand for home and export consumption, large quantities thereof are purchased from continental Italy, Greece, Russia, Tunis, Turkey, the English colonies, etc. The semola, or semolino, derived from the native and foreign wheat are mixed, and from this mixture macaroni is manufactured.

With a view of obtaining the semolino, the wheat, as hinted above, is ground in mills operated by steam or water power, the price of semolino varying according to its quality and the daily market value of wheat, which fluctuates from time to time, depending on the demand therefor and the quantity in the various markets referred to.

The best Sicilian wheat is known as "Realforte," the first grade of which, while fluctuating as stated, costs 23.29 lire per 100 kilograms, and the second quality thereof 22.51 lire per 100 kilograms. The next Sicilian wheat, as to quality, is known as "Sammartinara," of which there are also two grades, the first costing 22.90 lire and the second 22.51 lire, per 100 kilograms.

The average price of semola, or semolino, is 41.50 lire first quality and 40 lire second quality, per 100 kilograms.

MODE OF MANUFACTURE.

Before describing the modes of manufacture, it is thought proper to repeat that semola is the only so-called raw material used in the manufacture of fine, first-class macaroni. When other ingredients are used, the macaroni is of the second or third grade.

The first process in the manufacture of macaroni is to place the semola in a kneading trough lined with iron, together with sufficient water for kneading purposes. In the process a large millstone, with a double rotatory movement and vertical axis and a diameter of about 2 meters and a height of about 50 centimeters, is used. This millstone is propelled by two men, while another person, generally of some intelligence, known as the "governatore," or governor, stands near the kneading trough to "govern" or place the paste properly under the millstone, as occasion requires, to the right or left.

The paste thus prepared is placed in a vertical iron cylinder containing a piston, which is operated by the two men referred to above by means of a hollow screw, the governatore occupying a place at the exit of the macaroni, in order to cut each string the proper length as it passes out, as well as to place the same on canes or long, thin beams or poles arranged horizontally with a view to its drying. At the bottom of the cylinder is a brass plate containing numerous apertures, large or small, depending on the size of the macaroni desired, through which the paste in the form of macaroni emerges by means of piston pressure, until all the paste has been pressed out.

In order to facilitate the egress of macaroni through the apertures adverted to, the interior of the cylinder is lubricated with olive oil, while the extremity of the cylinder near the point of exit is heated.

Macaroni is of various lengths, some liking it long, others medium, and others short or no longer than half an inch; so it is with the forms of macaroni, which are almost innumerable.

The various lengths and forms are obtained, as explained in the foregoing paragraph, through the peculiar apertures in the plate which may be used.

Palermo abounds with small macaroni factories, and in these the majority of macaroni is made. It is also made at the houses of certain numerous persons by women; but, when thus made, its early consumption is indicated.

LABOR EMPLOYED AND COST.

Six hours are consumed in making 100 kilograms of macaroni, three persons being necessary to accomplish this in the time named, at a cost of 8 lire. The average quantity of macaroni made by each factory is from 100 to 200 kilograms daily. At some factories no more than 50 kilograms are made, while others make 250 and 300 kilograms per day. This depends upon circumstances—the capacity of the factory, its location (those centrally located or near the market having the advantage), and the demand.

In small factories three persons are sufficient; in large factories six persons and two boys are employed, who are divided into reliefs.

CONSUMPTION AND EXPORT.

The amount of macaroni consumed at Palermo is about 50,000 kilograms per day. Macaroni is not manufactured here for exportation, but simply for local consumption, the amount manufactured not being sufficient therefor. The necessary quantity is purchased at Naples and Termini-Imerese, the latter place exporting through this port considerable to the United States and other countries, as will be seen from the comparative statement herewith.

There is one dentated millstone in each factory, through which the semola is made into paste. There are also two cylinders or macaroni machines, known in Sicily as "abitrio," one of which is placed vertically and the other horizontally, the former producing large, thin, or long macaroni and the latter short or cut macaroni, known, respectively, as "pasta lunga" and "pasta tagliata." The vertical machine is operated by men and the horizontal by boys.

Table showing the quantity of macaroni exported from the port of Palermo to certain countries during the five years beginning January 1, 1885, and ended December 31, 1889.

Whither exported.	1885.	1886.	1887.	1888.	1889.	Total.
	Kilograms.	*Kilograms.*	*Kilograms.*	*Kilograms.*	*Kilograms.*	*Kilograms.*
Austria	755	1,330	2,178	2,356	1,500	8,119
Australia		1,440				1,440
England	5,648		16,164	11,508	9,430	42,750
France	564	664	725		1,800	3,753
Germany	395	1,650	451	910	1,200	4,606
Greece		680				680
Holland	732		910			1,642
Russia				20,720		20,720
Spain	150					150
Tunis	930	630				1,560
Turkey	30					30
United States	211,985	188,606	193,167	293,730	115,852	1,003,340
Total	221,189	195,000	213,595	329,224	129,782	1,088,790

The average annual export was 217,758 kilograms, and the average annual export to the United States was 200,668 kilograms.

Table showing the quantity of macaroni exported from Italy during the twelve years beginning January 1, 1878, and ended December 31, 1889, respectively.

Year.	Quantity.	Year.	Quantity.
	Kilograms.		*Kilograms.*
1878	5,430,000	1885	5,867,600
1879	5,580,200	1886	4,167,900
1880	6,789,700	1887	1,744,400
1881	6,501,200	1888	1,081,900
1882	7,096,400	1889	642,700
1883	7,132,400	Total	57,740,700
1884	5,706,300		

The average annual export was 4,811,725 kilograms. The falling off in 1887, 1888, and 1889 is attributed to strained relations with France.

PHILIP CARROLL,
Consul.

UNITED STATES CONSULATE,
Palermo, August 28, 1890.

MACARONI IN TRAPANI.

REPORT BY ACTING CONSULAR AGENT MARRONE.

The macaroni industry is little known in the northern provinces of Italy, while very extensive in the southern regions, particularly in Naples and Sicily.

Macaroni is a wholesome and nutritious food. The raw material which is used in its manufacture is corn flour, obtained at present in our market at the price of 38 lire per 100 kilograms for the first quality. The mode of manufacture is the following: Wheat is first ground by steam or wind mills, of which we have many in Trapani, many of the steam-mills being very important, particularly that of Messrs. Aula & Co., which is considered one of the first in Italy. Grinding wheat, etc., is one of the principal industries of this town. The flour is obtained, then kneaded with salt-water, after which the paste is pressed. There are different systems of manufacturing macaroni; some is made by steam-press, some by hand, and different forms are given to it. That made by hand is accomplished in the houses of the makers, the other in factories.

The number of men employed at Trapani in the macaroni industry is considered to be about five hundred. The cost of labor is 2.55 lire per day per man. The amount daily consumed in this town is nearly 7,000 kilograms.

The amount exported can not be stated, for the reason that the greater part of macaroni is sent by rail to the principal ports of Italy, as Genoa, Palermo, Naples, etc., and there exported by speculators to foreign markets. The annual exports directly from Trapani to the United States is insignificant. During this year only 8,320 kilograms have been exported thereto.

IGNAZIO MARRONE,
Acting Consular Agent.

United States Consular Agency,
Trapani, July 2, 1890.

MACARONI INDUSTRY OF LYONS, FRANCE.

REPORT BY CONSUL FAIRFIELD.

As to the material used in the manufacture of macaroni, the wheat is obtained from Algeria, Russia, Tunis, Tripoli, and India. The last is superior to any of the rest. The price paid for the wheat ranges from 22 to 25 francs per 100 kilograms.

The manufacture is entirely in factories. The number of employés is from 1,000 to 1,200. The heavy work is done by men; the drying, packing, weighing, marking, etc., by women. The men are paid from 4 to 5 francs a day; the women, 2 to 3 francs.

The value of the exports to the United States in 1890 was $120,000. This I learn from the records of the consulate. As to the amounts exported to other countries, I have not been able to find any thing reliable. The total value of the production is estimated by the chamber of commerce of this city at about $1,600,000. The same authority estimates that one-fourth of this is exported. If this is a correct estimate, nearly one-third of all that is sent out of France is sent to the United States.

This city is the chief center of the manufacture in France. Those engaged in the manufacture have declined repeated solicitations to give me any information relative thereto, and, as there is no report made to the public authorities, it has been impossible to obtain as exact information as I would be glad to furnish. I presume, however, that the estimates made by the chamber of commerce are not far astray.

EDMUND B. FAIRFIELD,
Consul.

United States Consulate,
Lyons, December 2, 1890.

COMMERCE AND INDUSTRIES OF SWEDEN.

REPORT BY MINISTER THOMAS, OF STOCKHOLM.

I have the honor to submit the following report on the population, products, industries, and trade of Sweden, together with Sweden's trade with the United States and the opportunity for a line of direct American steamers:

POPULATION.

The population of Sweden is almost exclusively of pure Scandinavian stock. Probably no other civilized country is inhabited by so unmixed a race. True, there are settled in the Kingdom 19,000 Finns, 6,400 Lapps, and some 3,000 Jews; but these and what few others there may be of foreign blood, all put together, form only a little more than one-half of 1 per cent. of the people.

Notwithstanding a cold climate, hard soil, and large emigration, the population of the country steadily increases. On December 31, 1800, Sweden numbered 2,347,303 inhabitants; on December 31, 1889, the population had increased to 4,774,409, having more than doubled during the eighty-nine years of the present century.

During the last twenty-five years Swedish emigration, chiefly to the United States, has been very large. American statistics show that in the decade 1880-'89 Sweden contributed to the United States over 400,000 of her people, nearly 1 per cent. a year; yet, during the same ten years, she increased, in round numbers, 200,000 souls. And this total of 600,000 for the decade just ended is all the natural increase of the race, for the total immigration from all the outside world into Sweden is small and does not equal the emigration out of it to countries other than the United States.

The number of Swedes dwelling in the country, on farms and in villages, is comparatively very great. At the close of 1889 there were 3,890,667 people living in the country and only 883,742, or about 18½ per cent. of the entire population, dwelling in all the cities. Of late years, however, the cities are growing at the expense of the country, and the desire for city life that seems to have taken possession of all other nations is slowly making itself felt even in good, old-fashioned Sweden. There are but two large cities in the Kingdom, and these stand head and shoulders above all others—Stockholm, with a population of 243,500, and Gothenberg, with 102,782, according to the census of 1889. No other city possesses 50,000 inhabitants.

There is a noteworthy preponderance of females in Sweden. The statistics of 1889 show 143,669 more females than males, or, in other words, for every 1,000 of the male sex there are to be found 1,062 of the female sex. And this disproportion was even greater in former times. In the year 1750, the earliest year for which such statistics are given, there were 1,124 females to every 1,000 males, a greater disparity than can be found in the records of any other land. The Swedes attribute this state of things to the continued foreign wars waged by Sweden during the seventeenth and the earlier portion of the eighteenth centuries, in which the gallant little Kingdom gained great glory, but lost the flower of her sons. During the last quarter of a century emigration has also contributed to keep up this inequality of the sexes, since for every 842 females there are 1,000 males, on the average, among the Swedish emigrants.

PHYSICAL FEATURES OF THE COUNTRY.

Of the 170,700 geographical square miles which form the total area of Sweden, no less than 15,000 square miles (one-twelfth) of the surface of the country are covered with lakes. Four of these—Venern, Vettern, Mælar, and Hjelmaren—are great inland seas, navigated by an extensive commerce. The largest, Lake Venern, is the third in Europe and covers 2,150 square miles.

Sweden is not only a land of lakes; it is pre-eminently a land of forest. The entire surface of the country, exclusive of lakes, is, in round numbers, 156,700 square miles in extent. Of this, no less than 69,500 square miles are covered with woods, giving a forest area equal to over 44 per cent. of the entire dry land surface.

An additional area of 68,000 square miles, or nearly 44 per cent. more, is not susceptible of cultivation, consisting of *fjeld*, rock, extensive morasses, fens, and swamps. Thus nearly 88 per cent. of the dry land of Sweden is to-day forest, *fjeld*, or fen. Indeed, exact statistics show that only 8 per cent. of the vast forest-covered, rock-bound surface of Sweden has been brought under cultivation.

AGRICULTURE.

Bearing in mind this fact and one other—that the entire country is so far north that all farming is impossible within the same parallels on the Atlantic coast of America—it is surely astonishing to learn that the great, dominating pursuit of the Swedes is agriculture. Not only this, but the agricultural products of Sweden are sufficient for the support of her own people, and, furthermore, leave a surplus for export in ordinary years.

The grain and pod crops of Sweden for the year 1890 are alone estimated to be worth no less than $76,400,000 and the potato crop at $15,400,000 additional, giving a total of nearly $92,000,000; and it should be stated that this potato crop is much below the average, being valued at $5,400,000 less than that of 1889.

More than half the land seeded with grain is given up to oats, and that cereal now forms more than one-half in bulk of the grain crop. Rye and barley are next in importance, and only a comparatively small amount of wheat is raised. Although only about one-fifth of the crop, rye is yet the chief staple for food. The Swedes, however, find it more advantageous to raise oats. This they export in large quantities, chiefly to England, and import rye, principally from Russia, profiting by the exchange. The average yearly export of oats for the last five years was, in round numbers, 200,000 tons and the import of rye 150,000 tons.

In like manner Sweden makes an exchange for her own benefit in the article of pork, sending her young swine to the English market, where they command a high price, and importing the more nourishing American pork, chiefly sides, in large quantities and at much cheaper rates.

In the olden time the Kingdom always produced sufficient cereals for her own people. The great wars of conquest, however, which Sweden carried on for generations so drained the country of tillers of the soil that about the year 1650 Sweden became a grain-importing country. This condition continued for one hundred and seventy years, or down to 1820, when Sweden again raised sufficient for her own consumption. In 1840, with more attention paid to farming and the application of improved methods, the Kingdom began to produce a surplus for export. Sweden then continued a grain-exporting land till 1880, a period of forty years; but since that year the statistics show a surplus of imports over exports in the grain trade.

This, however, does not prove a shrinkage in agricultural products; the reverse is, in fact, the case; it simply tends to show the change that has taken place in farming. The Swedes of late years have turned their attention more to dairying and to raising cattle and horses, for which branches of agriculture Sweden is peculiarly adapted from the excellent quality of grass in her fields and pastures.

In 1889 Sweden exported butter to the value of nearly $7,500,000, live animals—chiefly cattle, horses, sheep, and swine—worth $2,600,000, pork worth $1,200,000, besides beef, eggs, and cheese valued at $160,000 additional, making a total export of nearly $11,500,000 in animals and their products. So that although Sweden is to-day, and seems likely to continue to be, a grain-importing country, yet, taking the products of agriculture as a whole, she raises sufficient for her own people and has a surplus for export.

Besides the products of agriculture, Sweden exported in 1889 fish (fresh and salt) to the value of $4,500,000. Although Sweden has put only 8 per cent. of her territory under the plow, as we have seen, yet this small percentage, reduced to acres, gives us a very respectable figure.

Sweden possesses 8,027,000 acres of cultivated land. In addition to this, the country is exceptionally rich in natural meadows, the total area of which is estimated at not less than 4,329,000 acres, or 4.3 per cent. of the entire land surface.

But over and above all else is this vital fact, that nature, as if to compensate for the hard soil and arctic position of the Scandinavian peninsula, has granted it a climate softer and milder than she has given to any other northern land and rendered agriculture possible up to, and even far beyond, the Arctic Circle.

On the west, or Norwegian, coast of the peninsula, where the effects of the Gulf-stream are most felt, rye ripens up to 69° north latitude and both barley and oats up to 70°. In those high latitudes it has been noticed that barley is ready for the sickle in ninety days after sowing, the exact time required in the south of France. Doubtless the continuous light, night as well as day, helps to ripen the grain, and it is also said to give it a greater percentage of starch.

Small farms are the rule in Sweden, and the Swedish peasant generally owns the soil he tills. This ownership naturally begets contentment, and is largely the reason why such a vast majority of the population are still satisfied with a country life and that Sweden is still fortunate in the possession of "an honest yeomanry—its country's pride."

Of the entire arable land of Sweden, more than 66 per cent. is divided into farms whose cultivated area is between 5 and 50 acres each and more than 23 per cent. into little homesteads where the farmer tills less than 5 acres. The number of farms where between 50 and 250 acres are put under the plow comprises only about 9 per cent., and great estates of more than 250 acres of tillage less than 1 per cent., of the cultivated area of the Kingdom.

LUMBER.

Next after agriculture the two great products of Sweden are wood and iron. These are her two chief exports as well, and it is with wood and iron that Sweden chiefly purchases whatever she needs or wishes of the necessities and luxuries of the great world beyond the *fjords*.

And surely a nation may be accounted fortunate that possesses an abundance of these two great staples. They will always be in demand, for they are two of the prime necessities of civilized life. Of these two grand exports, wood ranks easily first.

The vast Swedish Norrland and the great central portion of the country, also, are still covered for the most part with a great black forest, consisting largely of pine and spruce.

The general trend of the Scandinavian peninsula, as it stretches away toward the pole, is north-northeast. The lofty *fjeld* plateau, which lies along the boundary between Sweden and Norway, and which is happily called "Kölen" (the keel)—the maritime Scandinavians likening their country to a boat turned bottom up—has the same north-northeast direction.

From this high *fjeld*, and often not far from, though high above, the Atlantic Ocean, rise numerous rivers, which, flowing in a southeasterly course down the gradual incline of the peninsula and at right angles with its longest axis, broadening frequently into long lakes, which once were *fjords* of the sea, and anon plunging in fosses down the rocky barriers between, at last fall into the Gulf of Bothnia.

Among these rivers are the Torneá, Kalix, Luloá, Piteá, Skelleftea, Umea, Angerman, Indals, Ljusne, Ljungan, and Dal-Elf. They all lie to the north of Stockholm, nearly all in Norrland.

Upon this enormous water-shed stand the chief timber forests. Along all these rivers and many smaller ones and their tributaries are carried on extensive lumbering operations.

Every fall the Swedish lumbermen go into the woods, just as our lumbermen do in Maine, Michigan, or Minnesota. They fell the trees, haul the logs to the banks of the river or brook all winter long, and in the spring drive the logs down the streams to the mills near the gulf. At the mouth of most rivers is a town, which usually takes its name, as it does its business and prosperity, from the river. Here are large saw-mills, with both steam and water power—some of them built of stone, brick, and iron—equal in both buildings and machinery to any lumber mills in the world. Here the logs are sawed principally into deals, battens, and boards, which are piled up in vast squares that almost conceal the town as you approach from seaward.

And here is a lively commerce summer and fall all along the Bothnian gulf. Ships, both steam and sail, lie thickly along the quays, taking on board the lumber, which they carry away to England (where it competes largely with lumber from our Northern States and Canada), to France, Denmark, Germany, Holland, Belgium, Portugal, and also to Brazil, Cape of Good Hope, and remote Australia. Thirty years ago many a stately American ship, clipper built and lofty sparred, sailed up the Baltic and took part in this trade; but our flag has disappeared from the Baltic now. May the time not be distant when it shall wave again both here and on every sea!

South of Stockholm lumber operations are conducted on both the east and west coast, and there is a noteworthy export from Gothenburg, most of which comes from the grand Klar-Elf, which flows into Lake Venern. But the great bulk of lumber is cut and sawed in Norrland and 85 per cent. of Sweden's lumber export comes from north of her capital city.

The vast Bothnian lumbering district extends from the head of the gulf down to the port of Gefle. This city lies north of the sixtieth parallel, and a glance at the map will show that 85 per cent. of Swedish lumber is cut and shipped from places north of the latitude of Cape Farewell, Greenland.

The lumber trade has been pursued upon the Scandinavian peninsula for centuries. Timber was exported from Sweden during the reign of Gustavus Vasa, at least as early as 1546, and Milton speaks of "the tallest pine hewn on Norwegian hills to be the mast of some great ammiral."

In 1659 the far-seeing Swedish Chancellor Oxenstiern called the Swedish forests "the most precious gems of the realm."

But it is only within the present century, and, in fact, within the last thirty years, that the Swedish timber trade has assumed any thing like its present importance. Strangely enough, there are no statistics of the timber product of Sweden, except for the Crown forests. Statistics of the lumber exported, however, are easily obtained, and these show that this trade has reached colossal proportions.

The average export of unmanufactured lumber from Sweden for the years 1881–'85 reached the magnificent sum of $25,864,000 annually and formed about 40 per cent. in value of the total exports of the Kingdom.

Sweden's lumber export consists chiefly of sawed stuff, four-fifths being deals, battens, and boards. The remainder is principally squared timber, usually hewn; spruce logs, used for piling in Holland; yards and booms in England, and masts of fishing craft in Scotland and France; and pit props (short small logs 3 to 7 inches in diameter and 3 to 9 feet long), used for propping up the rock strata of coal mines in England.

Sweden also exports manufactures of wood to an annual value of about $4,500,000.

The production of wood pulp has increased very rapidly in Sweden of late years. It is made chiefly from spruce, and that manufactured by the sulphate process is highly esteemed and meets with a ready sale. The greater proportion of the wood pulp is consumed at home; yet in 1885 16,000 tons were exported and in 1889 the export had increased to more than 52,000 tons. The greater part goes to England, Denmark, and the United States.

Swedish lumber is of excellent quality. The trees, growing so far north, increase but a trifle each year. The annual rings are consequently very narrow and compact, and this gives the wood a very fine grain; but this very fact also renders it a long process for the Swedish forests, when once cut over, to reproduce themselves.

The Crown forests.—How long the present rate of cutting can continue is a question of grave importance, not only to Sweden, but to the countries to which she sends her lumber, and also to the United States and Canada, whose own lumber meets in the Swedish product its greatest competitor in the markets of the world. The opinion very generally obtains that the amount of lumber now cut largely exceeds the growth of the forests and must at no distant day result in a diminishing annual havest of Sweden's greatest export.

In forming this opinion, however, I think there is one important factor that has not been sufficiently taken into consideration—the Crown forests.

More than one-quarter of the entire wooded area of Sweden, or 14,300,000 acres, belongs to the Crown. This is valued at $13,588,000, nearly $1 an acre, and in 1888 yielded a net income of $335,000.

These royal timber preserves are managed with scrupulous care. All Sweden is divided into forest districts, and these in turn into *revir*. Each district is under the supervision of a chief forest inspector, and each *revir* is guarded by a forest ranger and a number of under-keepers.

These not only keep strict watch against trespassers, but even as the royal officers of England ranged the Maine woods prior to our revolution and marked with the "broad arrow" the lofty pines that should be cut as masts for the navies of old England, so now the Swedish keepers go through the Swedish Crown woods and mark every tree they deem ripe for the ax; and these trees thus marked, and only these, are permitted to be felled.

The Crown forests are managed, in fact, on the principle that the increase alone may be cut, and that the forest itself—the capital stock, so to speak—shall stand forever on all Crown lands unsuitable for cultivation. Furthermore, the Government has entered upon an extensive and practical system of planting forests upon desolate and uncultivated areas.

These excellent official measures have also had a marked effect upon the owners of the private forests, especially upon the larger proprietors, many of whom are now managing their timber lands as permanent sources of income.

It is my judgment, therefore, that the vast forests of Sweden will be preserved and maintained substantially as they stand to-day, and that Sweden's lumber export—her greatest source of income—will be kept up and kept good throughout an indefinite future.

IRON.

The second grand export of Sweden is iron. Swedish iron is celebrated the world over; no better has ever been produced. It is soft, ductile, and tough and possesses great pliability and textile strength. For centuries Swedish iron has furnished the civilized world with the raw material for the best tools and weapons, the most elastic springs, the finest drawn wire, and the most pliant nails for riveting and clinching.

Thirty years ago it was said there was not a horseshoe nail driven in the United States that was not made of Swedish iron. The saying was true at the time, though to-day the discovery of better ores in America and the application of improved methods of smelting have enabled us to replace to some extent the Swedish iron with our own.

It is wonderful how the cold Swedish iron can be bent and coiled and twisted without breaking. I think every one who visited our great world's exposition at Philadelphia in 1876 will recollect, not only the Swedish school-house and the life-like groups of statuary representing Swedish peasants, but also the tall stands of Swedish iron bars, and how they were twisted and tied in bow-knots and bent into serpent's coils and contorted into every conceivable shape without a break appearing. I have heard of a Swedish steam-ship that in the fog ran full speed into an upright rock cliff. The bow was turned round and round into a spiral by the shock, but not a plate of Swedish iron was broken or cracked; the ship recoiled without a leak, and went on her way rejoicing.

The excellence of the Swedish iron depends partly upon the fineness of the ore, most of it being free from both phosphorus and sulphur, and partly upon the superior manner of smelting. All Swedish iron is smelted with charcoal, which is comparatively cheap, as the forests grow upon the iron beds.

The supply of iron ore in Sweden in practically inexhaustible. It is found all over the country. It not only occurs in thick strata in the rock, but forms a large part of the bulk of great mountains in various portions of the Kingdom.

The largest of these iron mountains is Gellivare, situated in the Swedish Lapland beyond the Arctic Circle. The ore occurs here chiefly in four gigantic strata and covers so large an area that it is estimated that if only 1 meter (3.28 feet) in depth is taken out a year the yield would be 943,600 tons, nearly equal to the amount now produced by all the mines in Sweden.

This Gellivare ore is also very rich, containing no less than 70 per cent. of iron. Much of it, however, contains apatite, and in such large quantities that the question of turning to account the phosphoric acid held in this mineral is seriously entertained.

A railroad has just been built and is being put in running order from Lules, near the head of the Gulf of Bothnia, to the iron deposits of Gellivare. The distance from the gulf to the mountain by rail is 190 kilometers, and it is anticipated that large shipments of ore will soon take place both to England and Germany.

At the present time iron is chiefly mined in central Sweden, 87 per cent. of the ore being broken in the four provinces of Örebro, Kopparberg, Vestmanland, and Vermland, which lie together, forming one compact area just north of the four great Swedish lakes. The best iron of all, however, is found a little to the eastward of this area. It comes from the celebrated Dannemora mines, in the adjoining province of Upsala, where the old Walloon refining process is still exclusively employed and is tenaciously adhered to, chiefly as a guaranty to the buyer that the iron really is from Dannemora.

The number of iron mines in Sweden is extraordinary. In 1889 no less than three hundred and ninety-three were worked, employing 6,278 laborers and producing 983,609 tons of ore. Most of the ore was smelted within the Kingdom, the small amount of 118,573 tons only having been exported.

The same year there were one hundred and fifty blast-furnaces in operation. Here the ore was smelted, producing 416,043 tons of pig-iron, together with 4,622 tons of castings, which were run directly from the furnaces.

From these pigs were refined 226,000 tons of blooms and 136,000 tons of iron and steel ingots, the latter by either the Bessemer or Martin process.

From these blooms and ingots, in turn, there were hammered out or rolled 275,000 tons of bar-iron; 2,000 tons of steel were also manufactured by the old methods, and there were produced, in addition, 74,000 tons of plates, nails, rails, and other articles. A small amount was exported without further refining.

In the various iron-works of the country there were employed in 1889 no less than 23,051 laborers.

Of bar-iron alone there was exported in the same year over 200,000 tons, while the value of unmanufactured metals—almost exclusively iron—exported from Sweden at the present time reaches, in round numbers, $9,000,000 annually.

Manufactures of iron.—Sweden is not content with manufacturing the rougher forms of iron alone. She builds excellent iron steam-ships of the finest quality. There are several iron ship-building works in different parts of the Kingdom, but the largest is located at Motala, on the Gota Canal. These works have also a branch at Lindholmen, in Gothenberg.

Nearly all the steam-boats plying on Swedish waters are built within the Kingdom, and Sweden also sells steam-ships to other countries, notably to Russia, Finland, Germany, and South America.

The Swedes excel chiefly in building ships of medium and small size and I think nowhere in the world are produced such light, graceful, swift, and serviceable steam launches as are turned out in Sweden and you see plying everywhere round about Stockholm, Gothenberg, and other Swedish cities.

The Swedes have also become very skillful in the manufacture of cutlery. The town of Eskilstuna, lying not far from the western end of Mælar lake, is now widely known—and deservedly, too—as "the Sheffield of Sweden." Here are situated a dozen or more factories, which turn out the finest cutlery and tools. Eskilstuna razors, penknives, and scissors are well known and highly prized in almost every country of the globe.

And I must not forget the "separator," an invention of Dr. de Laval, of Stockholm, for separating cream from milk. This machine has, in truth, revolutionized dairying. Separators are manufactured in Stockholm and exported to the ends of the earth.

MISCELLANEOUS MANUFACTURES.

Among the many other manufactures of Sweden, I think, none are more famous than her matches. The export of Swedish matches in some years reaches 15,000 tons, and they are liberally distributed broadcast over the whole world.

Of the remaining exports of Sweden, may be mentioned paper and the manufactures thereof, tar, granite for building purposes, paving stones, calfskins, and the hides of reindeer.

FOREIGN COMMERCE.

The exports for the year 1889 were valued, in round numbers, at $81,000,000, the imports for the same year amounting to $101,000,000, giving a total trade of $182,000,000, with an apparent adverse balance of $20,000,000.

The imports of Sweden consist chiefly of grain (largely rye, wheat, and maize), cotton and cotton goods, spirits, wines, herring, hides and skins, coffee, machines, mineral oils (petroleum), sugar, coal, tobacco, wool, and woolen goods.

Nearly one-half of the exports of Sweden go to Great Britain, the bulk of the remaining half to France, Denmark, Germany, Belgium, Holland, Norway, Spain, and Finland, these countries standing in relative importance in the order named. The direct export to other countries is comparatively small. But Great Britain does not consume all of the products she receives from Sweden. A great portion is transshipped and forwarded to other nations. England thus stands as a middle-man, or distributor of Swedish goods, and no doubt understands well how to make a judicious profit out of the situation.

SWEDISH COMMERCE WITH THE UNITED STATES.

To Americans the trade of Sweden with the United States will no doubt be the most interesting chapter of Swedish commerce. This trade has been for many years of respectable proportions, but it is a difficult matter to obtain any definite information of its volume or value.

The American statistics, to which I have had access, give the total of our imports and exports to Sweden and Norway together in the lump, and it is, of course, impossible to distinguish Sweden's part therein. Furthermore, our statistics do not embrace one-third part of the American products which annually are imported into the Scandinavian peninsula.

The Swedish official statistics give but two articles of any importance as exported from Sweden to the United States—iron and wood pulp—and the total value of these exports in 1889 is estimated at only $348,000. Of course, it is evident to any one at all familiar with the Swedish-American trade that these figures represent but a portion of Sweden's exports to the United States. The explanation is that the Swedish statistics credit to each foreign country those goods, and only those, that are exported directly to that country. Thus, if a steamer sail from Sweden to England, all goods on board are accounted for in the statistics as exports to England, when, perhaps, the ultimate destination of a large part of the cargo may be the United States or some other land.

The same is true of imports. If a ship arrive in a Swedish port from Germany, for instance, all the cargo discharged is written down as imported from Germany, although it may consist in large part of cotton, pork, or sole-leather from the United States.

The Swedish statistics of the American trade, therefore, embrace only those goods passing between the two countries in ships sailing directly from one to the other. But the great bulk of the merchandise exchanged between us is shipped on steamers of established lines that sail to England, Germany, or Denmark, where it is transshipped *in transitu*; and it is these countries, and not the United States, that are credited with by far the greater part of our trade. There is, fortunately, one way of obtaining accurate data upon Sweden's exports to the United States, and that is from the invoices sworn to before American consuls in Sweden, for these invoices embrace all goods sent from Sweden to the United States, indirectly as well as directly, where the value of the shipment exceeds $100. By the politeness of our consuls I have been furnished with this data, which I have endeavored to compile into readable form.

The great dominating export of Sweden to the United States is iron. This one great staple forms now, as it has for many years, three-fourths in value of Sweden's entire export to our country. While the Swedish statistics give the export of iron to the United States for 1889 at only 4,521 tons, worth $131,000, the returns from the American consuls show that Sweden actually sent us no less than 64,389 tons in that year; that is to say, for every ton of iron shipped directly there were 13 tons forwarded us via other countries.

These 64,389 tons of iron were valued in Sweden at $2,142,472, and consisted chiefly of bar and rod iron, rivet wire, nail rods, and steel castings, with smaller quantities of pig-iron, blooms, and ingots.

As a purchaser of Swedish iron, the United States stands second only to Great Britain, and, as for all other powers, we take more than three times the amount of any of them.

In the same year (1889) Sweden also shipped to the United States 8,046 tons of wood pulp, worth $284,061. This is used in making paper, and, of course, competes with the product of our own forests in our own markets.

We, furthermore, bought of Sweden $85,277 worth of her matches for our smokers; separators to the value of $20,618 for our dairies, besides $22,683 worth of other machinery; keen cutting knives and razors to the value of more than $7,000, calf-skins worth $6,000, and filtering paper worth $2,000. We also received from Sweden more than $10,000 worth of Swedish books. These all find their way to our Swedish fellow-citizens, who still cherish a love for fatherland, its language and literature.

Besides this, Sweden sent us smaller quantities of porcelain and silver spoons for our tables, leather jackets for our sportsmen, herring and anchovies for Swedish *smörgasborden* in the New World, and Swedish punch, whisky, and porter for our Scandinavian immigrants.

The total export of Sweden to the United States for the year 1889, as gleaned from the consular records, was valued at $2,787,000. This sum is eight times greater than that given in the Swedish statistics, and proves that only one-eighth part of the goods Sweden sends us comes in ships that sail directly from Sweden, while seven-eighths of the entire Swedish export to the United States are transshipped en route in foreign ports.

And even the consular figures do not give us the whole truth, for we must add to them all goods sent in shipments of less than $100 each, all books and merchandise sent by mail, as well as the vast amount of clothing, bedding, utensils, and other goods carried into America by forty thousand Swedish immigrants.

But it is of still greater importance for Americans to know what Sweden imports from the United States. Taking the same year (1889), we find the Swedish statistics give the total value of this import at $1,582,115. But Sweden's import from our country of either one of the three staples—cotton, petroleum, or sole-leather—was alone greater than this total, so much larger is the indirect than the direct trade.

Sweden's importation of petroleum brings up an interesting question. When I first visited Sweden, more than twenty-five years ago, there was scarcely a farmer's or fisherman's cottage in the land that was not lighted, when the nights were dark, with American petroleum. Since then the Russian mineral oil has been introduced into the country and has entered into active competition with the American.

Now, if there is any country in Europe where the Russian oil could successfully compete with ours, it would seem to be Sweden, which lies alongside Russia, but is separated from the United States by the North Sea and the Atlantic Ocean. The Swedish market is worth striving for, too, for in no civilized country are the winter nights longer and the need of artificial illumination greater than in Sweden and Norway.

It is especially gratifying, therefore, to learn that to-day, after years of rivalry, the Russian oil has made so little inroad that at least 94 per cent. of the petroleum consumed in Sweden is the product of our country.

Large quantities of American pork, wheat, and maize are also imported into Sweden.

American pork has, in fact, become a necessity. It is in almost univeral use among the Swedish laboring classes. They prefer it to the hog product of any other country, their own not excepted, and will not consent to any substitute.

Throughout the vast Norrland forests in every lumber camp American pork is as indispensable an article of diet as it is in Maine or Michigan.

Take a trip on any steam-boat in Sweden. Look down from the bridge upon the deck passengers. At noon time you will see many a one lift up the lid of his wooden chest, take out a chunk of white American pork, cut off a liberal slice, lay it carefully on a disk of dark, hard rye bread, and on this, and this alone, make his frugal meal, washing it down, perhaps, with a pint of light beer.

And Sweden's imports from America are not confined to the great staples. Any American who walks the streets of the Swedish cities and looks in at the shop windows, who mingles with the people, goes to their homes, and sees what they eat, drink, wear, and use, will be convinced that Sweden imports a great variety of American goods that are not credited to America in any published statistics.

I sent out one day for a lock for my door. "The best lock you can find," I told the messenger; and he obeyed my injunction to the letter, for he came back with a Yale lock made in Connecticut.

At every stationer's you find our handy Eagle lead-pencils.

There is no town of importance in Sweden where canned lobsters packed by the Portland Packing Company are not sold, and its Red Star brand is often seen upon the Swedish *smörgasborden.* A Stockholm merchant informed me that his firm imported canned lobsters from this one company to a value of more than $20,000 in a single year.

American canned corned beef is to be had everywhere in Sweden, and you will find in all grocery stores in the cities a good assortment of American canned fruits and vegetables, notably peaches, pears, apricots, cherries, plums, corn, and tomatoes.

Considerable quantities of preserved fruits and vegetables are consumed in Sweden. Most of them, however, are imported from France, and are higher priced than our own. A little push and pains would secure a largely increased market for this class of American goods in Scandinavia.

You sometimes come upon American canned chicken, turkey, oysters, and prawns, and I must not forget American honey and desiccated apples and the high esteem in which they are held in Sweden.

Our corn-starch, or maizena, is a special favorite with the Swedes, and the same can be said of our breakfast cracked oats and hominy.

There is an increasing importation of American flour into Sweden, and you may see loads of it carted through the streets to the bakers. It is contained in large brown bags that hold as much as a barrel, and is usually stamped "Minneapolis."

Early in the "eighties" there was a large importation of American apples. Our red-cheeked Baldwins were preferred, and "Amerikanska äpplen" was printed on all the bills of fare at hotels and restaurants. I was pleased to see our American Baldwins again in the Stockholm markets in the fall of 1890.

There was once a considerable sale in Sweden for our sewing and agricultural machines, but the Swedes have learned to manufacture such articles themselves and to control their home market.

Twenty-five years ago in many of the Swedish farmers' houses I entered I found hanging on the wall an American clock, frequently embellished with an engraving of George Washington. At present round nickel-plated clocks with an alarm on top may be seen standing in rows in the shop windows, and are sold everywhere throughout the country.

And, last of all, I must not forget the thousand and one little articles of daily need and use that come under the prolific head of "Yankee notions." For all such there is a good demand and ready sale in Sweden.

In getting at the amount of Sweden's actual imports from the United States I was greatly assisted by Dr. Hjalmar Gullberg, actuary of the royal central statistical bureau. With the help of the statistics of the bureau, and also those available in the Royal Kommerse Kollegium, we have sorted out and separated the American goods imported into Sweden via other countries as accurately as possible and added these to Sweden's direct import from the United States.

Of course, these figures are not, and from the nature of things can not be, exact; but I believe they are approximately correct, and I am quite sure they are the only ones ever made public giving any adequate idea of the volume of our trade with Sweden.

According to our computation Sweden imported in 1889 the following amounts of our goods:

Articles.	Value.	Articles.	Value.
Cotton	$1,794,647	Maize	$231,441
Petroleum	1,720,253	Clocks and parts thereof	74,998
Sole-leather	1,246,867	Other articles, chiefly those heretofore enumerated	1,998,968
Pork	751,430		
Wheat	237,764	Total	8,055,468

This total, it will be seen, is five times greater than the Swedish official figures, showing that four-fifths of Sweden's imports from the United States are through foreign ports.

It is also three times larger than our total export to both Sweden and Norway, according to American statistics, which would seem to show that the United States, like Sweden, takes into account only the direct export to each foreign land.

Here, then, we have a grand commerce where Sweden's imports from the United States amount, in round numbers, to $8,000,000 and her exports to $3,000,000 a year.

This gives a total Swedish-American trade of $11,000,000 annually, one, too, which is greatly to our advantage, for our sales are three times the amount of our purchases.

A LINE OF DIRECT AMERICAN STEAM-SHIPS.

Such is our trade to-day—a good showing, certainly, for our commercial relations with this little country so far away up toward the North Pole.

But our trade is not what it ought to be, not what it might easily be made to be, for it lacks one grand factor—direct steam communication. Let us glance for a moment at the channels of trade and travel now existing between the two countries.

The traveler from the United States to Sweden usually takes one of the great transatlantic steamers to Liverpool; thence a few hours by rail carries him across country to Hull, on the east coast of England; embarking here, a voyage of two days takes him on over the stormy North Sea, past the windy Skaw, on the northern sandy point of Denmark, and into the port of Gothenberg, Sweden. One may leave the United States by the German or Belgian steamers, and, landing at Antwerp, Bremen, or Hamburg, keep on by rail or boat to Copenhagen, whence a steamer will ferry him across the sound to Malmo, Sweden, in less than two hours.

Some ten years ago the Danish Thingvalla Steam-ship Company was founded. The steamers of this line ply once a fortnight between Copenhagen and New York, so that we may also sail from America to Copenhagen direct, and then, changing steamer, cross the ferry to Sweden.

The great bulk of traffic between Sweden and the United States passes over the first of these routes, that is, from Gothenberg over the North Sea to Hull, thence across England by rail to Liverpool, and then on to America by an Atlantic steam-ship; in fact, five-sixths of the Swedish emigrants take this route.

Now, these are all good lines, and each one of them has its peculiar advantages; but they all have this one great disadvantage in common, that all goods taken by them from the United States to Sweden must be discharged and reloaded at a foreign port *in transitu*, with all the delay, breakages, damages, agencies, leakages, "eatages," custom-house supervision, and annoyances which such transshipment is sure to occasion. Of course, the same is equally true of goods sent from Sweden to America; and, furthermore, all passengers and emigrants from either country to the other, together with their baggage, must be likewise transshipped.

Yet, in spite of all these hindrances and inconveniences, the Swedish-American commerce has attained the goodly proportions we have enumerated—proportions amply sufficient, it seems to me, to justify starting a line of direct steam-ships between the two countries.

The subject is not new. It has been agitated in Sweden, to my personal knowledge, ever since 1863, and the experiment has been several times tried. It was first attempted in 1884. Two lines of steamers were started in the spring of that year from Sweden to the United States, one sailing from Gothenberg, the other from Stockholm, and touching at Malmo and Gothenberg. Subsequently another line was started from Stettin via Gothenberg to New York, and other direct steamers have plied intermittently. But these lines have one and all, after a brief struggle, ceased to exist, not so much from want of patronage as because the rich and powerful transatlantic companies, in combination with the lines from Sweden to England and Germany, have either crowded out or bought up the new companies.

To-day there is no line of direct steamers between Sweden and America, yet $8,000,000 worth of American goods are transported from the United States to Sweden annually. And as for return cargoes, let us look a moment at only two of the exports of Sweden. Immigrants and iron—yes, blood and iron, in very truth—Sweden sends to us, and in what magnificent amounts! Forty thousand sons and daughters of her people and 64,000 tons of her iron a year. Divide them among a fortnightly line of steamers, and you have more than fifteen hundred immigrants and nearly 2,500 tons of iron for every ship. Is not this trade, or any considerable portion thereof, a prize worth striving for? And how admirably these two exports are adapted to and complement each other. The iron ballasts the immigrant ship; the immigrants enjoy the great space the heavy iron leaves vacant.

The attempts for direct ships have hitherto all been made from the European end of the route. Americans are now on the alert to increase the foreign market for our goods. We have determined, also, to restore our flag to its old time supremacy on the seas.

At this opportune moment I desire to call earnest attention to the subject of a direct line of American steamers from our country to Sweden. A grand commerce already existing invites our ships, and they will develop and increase this commerce to the benefit of both Sweden and the United States.

W. W. THOMAS, Jr.,
Minister.

United States Legation,
Stockholm, January 1, 1891.

AUSTRALASIAN-CANADIAN MAIL COMMUNICATION.

REPORT BY CONSUL GRIFFIN, OF SYDNEY.

I have the honor to inform the Department that the friends of the Government of the Canadian Dominion in these colonies have been very active for several months past in pushing the efforts of the Canadian Pacific Railway Company to secure a subsidy for a monthly or fortnightly mail service between Vancouver's Island, B. C., and these colonies. It is thought that several Canadian officials will be here shortly in the interest of the said service. A cablegram from London, under date of the 18th instant, states that a subsidy of £165,000 has been granted by Canada towards the proposed mail service, and that it is believed Great Britain has consented to give £50,000, and that the colonies will be asked to give £35,000. A cablegram has also been published here to the effect that the Marquis of Hartington will introduce to the Marquis of Salisbury a deputation of the agents-general for Australasia to join in a subsidy for the new line. The newspapers of the colonies, with one or two exceptions, are silent about the matter. It seems, however, from the tone of the journals that have touched upon the subject at all, that there is little sympathy among the great body of the people for the movement, and I am of opinion that the proposition is likely to encounter opposition, although the amount asked for is very small when compared with what they have been in the habit of paying for carrying their mails.

It is said by the friends of the Canadian railway that the proposed steamship line will be the means of bringing about a large trade between Canada and Australia. Now, the truth is, there are very few things in Canada that the Australian people want or that they could not get cheaper and better in the United States; and, in regard to the export trade from these colonies to Canada, that, I think, is wholly out of the question, at least for many years to come. The population of Canada is too small to create a demand for wool or any other raw product of Australia.

All things considered, the proposed undertaking seems more like a menace to the interests of the United States than any thing else. It should be remembered that the trade with the United States is rapidly and steadily increasing, and bids fair, in the near future, to swell to large proportions, and particularly if any thing like reciprocity could be established between the two countries.

It will be seen from the elaborate tables I prepared on this subject, printed in CONSULAR REPORTS No. 118, that, small as the trade is, it is much larger than that of any other country, with the exception of Great Britain, and, leaving the latter out, nearly as large as that of all other countries combined. In the remarks accompanying the tables I have endeavored to point out the exact condition of the trade and the obstacles that stand in the way of its further development. The report, together with others that I have prepared from time to time, show how anxious the colonies are to trade with us and to cultivate the most cordial and friendly relations. This feeling appears to pervade all classes, from the highest officials to the humblest citizens. The governor of New South Wales and lieutenant-governor, the premier, cabinet ministers, mayor, and other leading officials and citizens have for many years past united with the Americans in Sydney in celebrating the anniversary of the Declaration of Independence of the United States and exhibited in every possible way the great interest they take in the affairs of our country. The Sydney Morning Herald, the most conservative and believed to be the most loyal to the British Crown of any of the colonial journals, has repeatedly in its editorial columns directed attention to the growing desire on the part of the people here to bring about the closest ties of commerce and friendship between Australasia and the United States. In a recent article on the Vancouver service, a copy of which is hereto appended, it says:

> Those who have studied the later development of political feelings in these colonies will freely recognize that in some points our sentiments are more in unison with those of America [meaning the United States] than with those of Canada; but, even were this not so, the case remains that there are hardly any practical matters in which we hold a common interest with Canada. It would be scarcely possible to mention a subject of Australian interest in respect to which we should derive strength from a closer political relation with Canada.

If the public feeling were to be gauged in every one of the colonies, the same feeling would be found to exist. The subsidy, however, as I have previously remarked, if granted, might for a time result in an injury to the interests of the United States by interfering with the present mail route to San Francisco.

The same persons interested in the Vancouver service are also moving in the direction of forming a company for the purpose of laying a cable between Vancouver's Island and Australia.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, December 24, 1890.

[Inclosure 1 in Consul Griffin's report.—From the Sydney Morning Herald.]

It is apparent that the Dominion of Canada feels a strong interest in the question of closer communication with Australia. This interest is recalled to us by two items of news appearing in our Thursday's issue; one related to the formation of a powerful steam-ship company to maintain an Atlantic service between Great Britain and Canada and a Pacific service between Canada and Australia, the other referred to the visit next March of Mr. J. J. C. Abbott, to represent the Canadian Government in Australia and to discuss the subject of trade relations between the two countries. There is evidently a strong desire on the part of the Canadian Government to bring about a closer mutual dependence between the two groups of colonies, and it will be of great interest to see by what arguments the invitation addressed to us will be supported. Hitherto the wooing has been wholly on the side of Canada. Australia has not yet given much encouragement to the suit; but, as the time approaches when it is to be pressed with greater vigor, it will be necessary to consider what answer must be returned to the suitor.

So far as we are able to gather from what has been made public on the subject, the Canadian suggestions are presented in two aspects: they have a political side and a commercial side, or, to put the case in another way, the proposals are of a commercial nature, but they are to some degree supported by political considerations. Canada desires to enter into close commercial relations with these colonies, but some of the reasons and sentiments which give rise to this desire are political in their nature. They seem to have their source in the idea of imperial federation. They are directed to endeavor to bring about greater political solidarity between the two countries, and to effect this by establishing closer trade relations in the first place. But, if there is any thing really practical in the commercial proposals which are to be submitted for our consideration, it will be wise to keep them carefully separated from any political objects of the kind which are usually associated with the policy of Sir John Macdonald. Australians by no means wish to repudiate their kinship with Canada; but, if the truth is told, it is quite certain—and the evidence was abundantly supplied by the course of the late federation debates—that they do not feel themselves at all more closely akin to Canada than they do to the great nation of the English race which forms the United States. Those who have studied the later developments of political feeling in these colonies will freely recognize that in some points our sentiments are more in unison with those of America than with those of Canada. But even were this not so, the case remains that there are hardly any practical matters in which we hold a common interest with Canada. It would be scarcely possible to mention a subject of Australian interest in respect to which we should derive strength from a closer political relation with Canada. There is scarcely a subject of Canadian interest in which the Dominion could rely on the sympathy and support of Australia. Most of Canada's great outside questions and outside dangers are caused by her proximity to the American Union. But Australia would never consent to commit herself to connections or obligations which might have the effect of making her a party to a quarrel between Canada and the United States and of making us enemies of a great power of our own kinsmen with which on our own account we could hardly have any possible cause for difference. Inasmuch as a country's outside relations usually depend upon its practical interests—and it is difficult to imagine any in common between us and Canada—it would be of little use, and it might be of great danger, to involve ourselves in political agreements which had no community of interest as their foundation and which might be a source of embarrassment and peril. So far, then, as the business associations of the two countries are concerned, it will probably be the better course to keep commercial matters on a strictly commercial footing, without complicating them with doubtful politics.

So far as we can at present see, the commercial proposals to be submitted to these colonies are twofold: we shall be asked to give our support in the shape of a subsidy of £40,000 a year to the Imperial line of steamers to connect us with Canada, and to enter into trade arrangements with the Dominion. Regarded by itself, it is, of course, a pleasant thing to have the offer of a new and well-managed line of communication as an alternative route via America with England; but we can not pause to consider the advantages of such a line without taking into account the price to be paid for it. The price named is £40,000 a year, and it is rather a large one. Our Government lately preferred to run the risk of losing the San Francisco service rather than be answerable for the sum of about £5,000 a year requisite to maintain it. It can hardly be doubted that as a passenger route the line through the United States would always be of greater interest and attractiveness than that through Canada. It would, perhaps, be well to have the choice of two routes, but the advantage would hardly be worth purchasing at the price it is proposed to ask. To put the matter plainly, while it is quite apparent that Canada has a very strong interest in this matter, having on her hands a long and costly railway to which she desires to attract traffic, the interest of Australia is not at all so obvious. It will be desirable that this point should be worked out in a business spirit before the negotiations are pushed any further.

There remains the question of trade relations between the two countries. This seems to be the most doubtful part of the matter. How is it that we have but little or no trade relations with Canada now? The answer, we suppose, is that we are not so situated as to make trade interchange profitable. Interchange is usually most profitable when it takes place between two countries which differ largely as to their products and their requirements. Our chief business lies with England, because the position of the two countries corresponds with this condition. Australia is a young country which exports raw products and imports manufactured goods; England is an old and densely populated country which imports raw materials and ships her manufactures in exchange. But how does the case stand between us and Canada? We are both young, partially developed, thinly populated countries, and our exports belong in both cases mainly to the class of raw products. It is difficult to see what we could exchange with each other. It is quite apparent that on purely business lines we have little or nothing to exchange. But the reply is that it is proposed to alter these existing conditions by some sort of reciprocal arrangement which would tend to foster such a trade. It is, however, obvious that we could not encourage trade with Canada in this way except at the cost of discouraging trade with the rest of the world. To accord a trade advantage to one country is to impose a trade disadvantage on all the rest. It would be in the highest degree chimerical to ask us, for the sake of a dubious trade with Canada, to put relative disabilities on our trade with the United Kingdom. Attractive as this idea of entering into closer political and commercial relations with Canada may be, we can not afford to deal with it as a matter of sentiment. It must abide the commercial and business tests we apply to all similar practical matters, that we may determine whether the policy proposed is one of proper and natural development or whether it is too forced and artificial to merit approval.

[Inclosure 2 in Consul Griffin's report.—From the Sydney Morning Herald of December 17, 1890.]

A cablegram informs us that early in January next the Marquis of Hartington will introduce to the Marquis of Salisbury a deputation of the agents-general for Australia, who will urge the premier to grant a subsidy towards the conveyance of mails to Australia via Canada, the terminal point of the American service being Vancouver Island. This statement calls for explanation, because it seems to imply either that the agents-general are proposing to take the initiative in a question of public policy seriously affecting their respective colonies or that they have received instructions from the colonial governments in anticipation of any settlement of this question of policy by the colonial parliaments. If the English Government is to be asked by the Australian agents-general to subsidize the proposed Canadian-Pacific mail service, the question will naturally be asked whether the colonies are prepared to join in granting a subsidy. It has been suggested that the Australian colonies should contribute £40,000 a year, and it is impossible to suppose that either the colonies or England would consent to deal with this matter of joint interest on independent lines. The service would have to be taken as a whole. We could not be expected to subsidize a service between Australia and Canada unless we were assured of its continuation from Canada to England. In like manner it is not for us to ask the English Government to grant a subsidy to the service on the other side unless we are willing to pay our part on this. It is difficult to see how the Australian agents-general can approach Lord Salisbury for the purpose stated without in some sense committing the colonies to participate in the cost of the service, if the Imperial Government also will do so. But it ought to be evident that the agents-general have no right to commit their colonies in a matter of this kind. And, so far as New South Wales is concerned, the question of the new Pacific mail service, although it has been in view for some time past, has not been made the subject of Parliamentary discussion and settlement. Ministers act under responsibility to Parliament, but it would be overstraining the doctrine of responsibility to commit the colony to an understanding with the Imperial Government in this business before our Parliament had been expressly consulted. We are not here discussing the question of the expediency or inexpediency of establishing the proposed service, but simply wish to direct attention to the indication contained in the cablegram that somebody seems disposed to travel rather too fast with this project.

FREIGHT RATES BETWEEN PANAMA AND CHILI.

REPORT BY CONSUL DAUGHERTY, OF CALLAO.

I have the honor to submit herewith a table of freight rates on live stock furnished to-day to the American representative of the Ohio Stock Exportation Company:

Animals.	Freight rate from Panama to—	
	Callao.	Valparaiso.
	*Sols.**	*Sols.**
Horses	40	60
Donkeys	30	45
Cattle (oxen or cows)	17	32

* 1 silver sol .68 cents.

The carts pay freight at the rate of 20 sols per ton, weight or measurement, for Callao or Valparaiso.

This company has been for years engaged in the importation of American live stock to Chili and Peru. These rates are double the rates usually charged, so I am informed by this representative, and will greatly retard, if they do not entirely prohibit, further importations for a time by this company.

It is well known already that there is no longer competition between the English and Chilian lines of steam-ships plying between Panama and the west coast of South America.

This list of rates illustrates well the chief difficulty in the path of the American exporter of live stock.

I am reliably informed by an American house here that, notwithstanding the sharp competition which existed for a long time between the lines above mentioned, and which only terminated by mutual agreement July 5 of the present year, the Chilian line paid a dividend of 7 per cent. for the first six months of the year, and the stockholders have assurances that the dividend for the last six months of this year will certainly reach 10 per cent. and possibly 12 per cent.

Americans hardly need the help of the consul to draw correct inferences

A. J. DAUGHERTY,
Consul

UNITED STATES CONSULATE,
Callao, November 22, 1890.

AMERICAN-MELBOURNE TRADE.

REPORT BY CONSUL-GENERAL WALLACE.

THE PROVINCE OF VICTORIA.

The province of Victoria is the southeastern portion of the continent of Australia, and lies between the thirty-fourth and thirty-ninth parallels of south latitude and the one hundred and forty-first and one hundred and fiftieth parallels of east longitude. It is the smallest, but most densely populated, geographical division of Australia, being but 3 per cent. (87,884 square miles) of the total area, with a population of 1,104,300, or of 12.7 persons to the square mile; of these, 58.55 per cent., or 641,620, are urban and 41.45 per cent., or 462,680, are rural. The principal inlet on the coast is Port Phillip Bay, which is an inland sea of an extreme length of over 30 geographical miles from north to south and of 35 miles from east to west, the entrance to which is about 2 miles across, with a well buoyed channel.

THE CITY OF MELBOURNE.

Melbourne, the metropolis and capital, is situated at the head of Port Phillip Bay, on the banks of the river Yarra, and contains a population of 445,220, making it the second largest city in the southern hemisphere. The harbor trust during the past few years has expended over £2,000,000 in deepening the river from 13 to 22 feet, extending the wharves over 1½ miles, erecting warehouses and sheds for storage, and generally facilitating the shipping interests of the city.

There are at present two fortnightly lines of Royal Mail steamers averaging over 5,000 tons burden, under the British flag, and two monthly lines of equal size, one under the German and one under the French flag, plying between this port and Europe.

The people of Victoria are prosperous, and money is abundant. The estimated wealth of the province is £353,376,000, equal to £320 per capita.

There is a great demand for all the necessaries and many of the luxuries of life, which their own country will not readily produce.

IMPORTS.

The total imports for the year 1889 were £23,674,132, or $115,210,163.37, and the United States is third upon the list of countries which furnished this amount, England being first and New South Wales second. The amount of imports from the United States, as furnished by the customs authorities here, is given in the inclosed table, which for convenience has been reduced to the currency of the United States.

After careful comparison and diligent inquiry, it became evident that these amounts do not represent all of the imports from the United States, and a letter to the secretary of trade and customs, Hon. A. W. Musgrove, on the subject brought the following in reply:

DEPARTMENT OF TRADE AND CUSTOMS,
Melbourne, December 9, 1890.

SIR: I have the honor, in reply to your inquiry, to give the following explanation of the discrepancy between the import and export returns published by this department and the statistics collected by yourself.

As regards imports, a large quantity of American merchandise reaches this colony by way of Great Britain and New South Wales, and this is entered as from those countries. It is not known how much arrives by these indirect routes, and any estimate might be more misleading than valuable; but the quantity of tobacco which appears as having been imported from Great Britain in the year 1889 is valued at more than £130,000, and this is known to be almost entirely of American manufacture.

The exports are affected in the same way. Wool and other merchandise are sent by way of Great Britain, and inquiries made lead to the belief that half the wool sent to the United States was shipped by this route, and is consequently not included in the returns of exports to the United States; and goods for the west coast of America are sent largely by way of Sydney, and for these reasons the export statistics of this colony can not be looked upon as a fair statement of the trade of this colony to America.

I have the honor to be, sir, your obedient servant,

A. W. MUSGROVE,
Secretary.

A memorandum from the department of trade and customs on the subject is as follows:

MELBOURNE CUSTOM-HOUSE, STATISTICAL BRANCH,
Melbourne, December 5, 1890.

In addition to the articles enumerated in the return of imports from the United States of America during the ten years 1880-'89, inclusive, I would point out that tobacco was imported from the United Kingdom during that period amounting to 7,251,130 pounds, valued at £539,172, exclusive of cigars, as shown in the following statement, viz:

Table showing imports of tobacco into the colony of Victoria from Great Britain during the years 1880-'89, inclusive.

Year.	Manufactured.	Unmanufactured.	Total.	
			Quantity.	Value.
	Pounds.	*Pounds.*	*Pounds.*	
1880	101,175	41,297	142,472	$39,340.78
1881	5,180	56,179	61,359	19,587.66
1882	108,753	93,674	202,427	77,070.72
1883	311,116	119,122	430,238	170,342.10
1884	347,377	152,347	499,724	185,447.70
1885	662,316	81,117	743,433	28[illegible],376.68
1886	498,017	312,722	810,739	253,946.46
1887	710,352	128,307	838,659	304,764.56
1888	1,455,342	192,324	1,647,666	597,893.31
1889	1,747,017	127,395	1,874,412	681,196.79

This is believed to have been almost exclusively the product of the United States.

(Signed,) JAMES REED,
Statist.

If this amount be added to the amount of direct imports, the total will be £1,130,988, and, if to this be added £225,000 as the estimated amount of the imports of tobacco, coal-oil, hardware, carriage material, etc., imported via New South Wales from the western coast of the United States and Great Britain, the grand total is £1,355,988, or $6,598,915.60; and it is firmly believed here, that if there were direct steam communication between Port Phillip Bay and the ports of San Francisco, Cal., and New York City, this amount would be increased to over £2,000,000, or $10,000,000, and such lines of communication and transport are very earnestly desired by the merchants dealing in American products and the people generally.

Following the table of imports is a summary of the exports to the United States from Victoria during the year 1889.

Table showing the value of articles imported into Victoria (Melbourne) from the United States for the years 1880–'89, inclusive.

Articles.	1880	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Agricultural implements	$5,561.88	$6,024.93	$11,373.01	$11,937.52	$13,124.95	$1,786.00	$7,917.80	$4,311.72	$14,458.37	$9,742.73
Apparel and slops	24.33	613.18	350.38	1,192.29	457.45		2,681.45	131.40	155.73	4,924.90
Arms, sporting	180.06	1,801.33	2,039.06	603.44	1,674.08	1,834.66	843.90	1,790.87	5,401.81	6,954.23
Arms and ammunition		214.13	97.33		340.95	729.98	914.90	997.33	1,970.93	4,287.38
Axles and arms	3,868.86	3,250.82	14,278.31	6,847.16	6,309.71	8,204.92	10,209.92	6,214.52	13,197.95	15,446.27
Beer:										
Bottled, and lager	19.47			2,097.46	3,148.36	12,964.36	24,634.22	32,858.62	24,059.97	18,896.62
Draft							16,555.83	1,338.28	8,180.58	9,372.88
Broom-corn and millet	700.78	5,226.62	6,380.71	24,904.34	2,919.90		2,949.10	11,046.95	18,789.56	28,532.29
Brush ware and brooms	4,233.31	2,652.24	1,873.60	686.18	2,013.66	2,243.45	4,117.06	1,883.35	2,856.63	2,520.84
Carriages and carts		1,615.32	4,739.96	5,664.61	28,016.44	19,650.93	3,946.72	6,487.04	1,411.28	9,703.80
Carriage materials	4,407.89	8,569.91	11,845.06	15,747.90	22,643.82	18,288.30	16,443.90	12,171.11	12,706.43	19,480.60
Clocks	10,438.14	21,621.56	48,514.14	39,574.38	27,602.79	24,931.08	28,532.29	20,400.37	37,165.46	41,394.45
Confectionery	38.93	340.65		150.66	43.80	38.93	165.46	1,382.09	866.23	8,822.96
Cordage	223.86	257.92	618.04	3,377.34		2,233.72	23,797.18	35,564.38	9,046.82	35,413.52
Cotton piece-goods	1,956.33	5,737.60	1,902.80	9,105.22	1,931.99	3,061.02	5,250.95	4,409.05	10,677.10	8,204.92
Drugs and chemicals	2,944.23	3,596.34	1,328.55	5,693.80	4,277.64	6,847.75	3,377.34	2,769.04	10,414.31	13,582.40
Engines, steam		807.84	885.70		6,973.69	681.31		3,572.00		1,523.21
Fancy goods	447.71	535.31	4,160.85	1,722.73	885.70	4,292.25	2,637.64	2,365.12	5,484.54	8,642.90
Fish:										
Preserved	14,307.51	24,162.17	22,721.69	23,281.53	33,457.18	29,340.12	41,701.03	32,114.03	96,502.69	138,631.98
Salted	1,717.87	3,533.08	6,837.43	2,399.13	5,142.55	24.215.70	5,002.76	5,723.00	10,292.64	3,844.53
Fruits, dried	671.57	10,725.76	15,280.81	5,966.33	14,580.03	20,672.89	97.33	476.91	9,241.48	3,640.14
Furniture and upholstery	39,112.06	60,043.18	85,553.07	53,307.63	70,763.77	92,658.16	90,244.37	22,059.84	46,898.46	102,615.02
Glassware	9,640.53	11,436.27	4,876.23	6,341.05	8,214.65	12,102.98	17,461.00	18,740.89	22,157.17	16,950.02
Grindery	15,353.80	15,363.54	7,684.20	5,396.95	16,244 37	9,572.40	8,273.05	11,660.13	14,073.91	11,830.46
Haberdashery	851.63	841.90	1,211.75	3,421.15	11,110.22	1,980.66		1,567.62	1,703.27	6,740.10
Hardware and iron-mongery	41,180.32	44,864.26	68,291.59	70,131.12	65,274.36	95,972.24	1,742.20	79,912.79	135,108.64	177,787.84
India rubber goods	2,355.38	2,155.86	1,279.89	4,803.23	919.77	2,939.36	4,423.64	2,418.64	2,442.98	4,267.91
Instruments:										
Musical (organs)	10,677.10	28,264.63	59,989.34	30,907.14	47,156.38	52,456.00	32,221.09	33,457.18	54,001.04	64,461.66
Surgical	68.13	3,192.42	14.60	871.10	408.76	1,216.62	1,708.13	1,489.15	574.24	4,608.57
Iron:										
Bolts and nuts	589.11	1,635.14	4,861.63	3.051.20	1,863.87	6,360.51	4,121.92	6,530.84	6,998.02	6,822.83

Wire	360.12	10,9[illegible].89	4,949.23	7,066.15	457.45	467.18	2,408.91	4,170.58	27,317.77	9,520.61
Leather:										
Fancy and patent	12,974.09	25,646.45	26,853.35	36,630.14	28,658.82	30,736.81	47,351.04	36,790.74	59,050.10	75,786.00
All other	20,064.58	34,902.53	38,776.27	10,083.39	21,091.41	21,602.39	19,553.59	6,686.57	21,762.98	13,217.41
Leather ware	2,311.58	4,228.99	9,951.99	6,034.46	2,593.84	5,577.01	7,406.81	5,703.53	7,314.35	9,810.86
Machinery:										
Agricultural	10,278.04	30,882.81	34,484.02	68,822.04	176,769.19	8,647.77	21,874.91	77,601.21	176,644.21	184,483.70
Other	11,893.72	18,156.91	68,500.85	48,480.07	50,389.71	36,995.13	43,443.24	44,703.67	88,614.09	100,902.01
Maizena and corn flour	26,765.75	37,394.18	24,697.48	8,672.10	18,249.37	2,155.86	19,003.68	28,493.35	34,430.48	40,610.94
Manufactures of metals	16,516.90	22,308.03	48,397.34	43,268.05	44,109.96	56,801.78	64,252.40	64,709.84	91,631.33	109,768.77
Marble, unwrought	....	....	....	....	....	....	1,620.54	48.66	734.83	5,416.41
Medicines, patent	10,462.97	9,202.55	19,967.25	7,319.21	15,100.75	26,527.29	38,790.87	19,475.73	26,201.23	27,241.91
Metal ware, mixed	1,756.80	1,625.40	4,501.51	5,625.67	9,543.20	8,774.30	15,139.68	15,300.27	16,424.43	16,205.44
Nails	7,538.20	10,769.56	19,052.34	16,531.50	13,825.72	17,957.38	21,193.60	9,859.52	16,910.82	13,051.95
Oil:										
Kerosene	350,258.60	306,292.64	344,645.53	248,566.22	317,110.87	539,616.98	398,269.48	281,054.97	641,248.97	306,078.51
Lard	5,207.15	1,747.06	3,940.72	5,007.62	9,489.67	17,212.81	32,634.75	22,955.28	10,205.05	11,499.54
Lubricating	3,377.34	3,270.28	3,834.80	3,280.01	2,199.65	5,568.52	3,7[illegible].13	6,487.04	8,526.10	10,716.03
Mineral	437.98	9,548.07	12,511.77	18,560.83	18,658.16	21,174.14	13,455.87	21,850.58	18,138.10	25,695.12
Ordnance stores	29,067.60	1,017.09	900.30	70,564.25	....	1,946.00	....	4,978.43	1,678.94	8,545.57
Paper:										
Bags	....	....	....	....	....	....	11,188.08	6,579.50	4,370.11	7,119.69
Printing	....	656.97	....	....	1,221.48	....	963.56	4,958.96	1,630.27	14,132.31
Other	749.44	413.65	558.84	2,924.76	1,868.73	2,919.90	1,333.41	1,528.07	1,479.41	8,521.24
Plated ware	12,643.16	16,585.03	21,704.59	27,972.64	26,327.75	39,029.33	36,961.06	34,386.68	39,631.64	29,967.90
Printing materials	1,702.13	2,949.09	1,829.80	700.77	788.37	710.50	1,941.72	5,766.80	8,827.83	20,020.78
Plaster of Paris	6,662.23	12,759.96	26,210.97	20,935.68	11,519.00	28,318.16	40,912.66	25,145.20	47,462.97	55,040.11
Resin	35,481.65	38,754.09	23,666.84	20,945.41	27,150.20	36,270.02	30,498.35	15,061.81	20,682.62	49,477.70
Saddlery and harness	155.72	1,810.33	948.96	394.18	876.58	1,742.20	1,810.33	666.71	866.23	4,102.45
Sausage skins	6,188.32	11,582.27	35,043.66	25,583.19	33,218.72	30,950.94	6,681.70	31,710.11	38,893.06	43,501.64
Sewing-machines	30,595.68	92,653.29	96,235.03	80,253.44	59,176.64	63,580.82	20,784.82	36,216.49	57,906.47	130,597.38
Slates, roofing	16,278.44	69,868.33	120,611.33	39,369.98	73,858.86	80,822.83	88,156.64	37,092.46	127,156.77	139,872.94
Spirits	44,090.49	55,930.67	55,453.76	54,076.54	50,480.19	48,757.46	44,703.66	28,746.41	42,270.41	29,281.73
Stationery	2,129.53	6,326.45	9,402.07	4,978.42	5,868.99	8,453.11	15,056.95	11,363.27	24,678.02	30,551.88
Sugar	13,543.46	87,660.26	27,101.53	59,989.34	105,622.51	281,882.27	148,715.36	267,550.43	11,261.08	2,394.31
Timber:										
Deals	77.86	....	671.57	3,138.89	....	29,199.00	1,703.27	973.30	24,697.48	29,194.13
Dressed	120,708.66	98,595.29	198,236.87	153,698.66	234,365.76	219,761.40	200,957.24	234,555.56	312,015.64	308,394.96
Undressed	159,022.61	249,539.51	471,870.43	396,493.21	444,068.12	382,346.30	714,918.04	637,102.70	1,660,444.03	1,196,852.41

Table showing the value of articles imported into Victoria (Melbourne) from the United States for the years 1880–'89, inclusive—Continued.

Articles.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Timber—Continued.										
Laths	$4,593.97	$18,103.38	$25,106.27	$24,429.83	$34,357.49	$44,912.92	$68,559.25	$6,268.05	$68,038.53	$63,030.90
Pickets	2,282.38	7,217.01	12,789.16	12,915.69	11,387.61	26,191.50	32,109.16	21,183.87	62,758.37	43,574.64
Shooks and staves	....	1,284.75	8,808.36	3,338.41	8,686.70	3,581.73	4,321.45	3,591.47	7,937.26	13,100.61
Tobacco:										
Manufactured	326,016.56	367,250.42	578,660.91	314,989.07	375,216.88	402,975.39	506,729.17	403,247.92	358,583.18	166,580.29
Unmanufactured	42,426.14	62,437.19	52,168.88	38,927.13	64,335.13	61,989.47	66,632.11	31,388.92	55,663.02	71,634.88
Cigars and cigarettes	26,824.14	9,051.69	24,011.31	24,040.51	19,295.67	23,305.66	4,817.83	4,379.85	7,586.86	978.16
Tools and utensils	80,774.16	81,431.13	113,365.11	81,937.25	59,390.76	60,154.80	59,132.84	46,056.55	83,990.92	102,911.89
Toys	1,649.74	2,296.98	3,075.62	2,423.51	1,917.40	4,691.30	4,739.96	2,116.92	4,472.30	7,173.21
Turpentine	21,689.99	28,283.09	52,261.34	31,826.91	53,312.50	43,063.65	33,087.33	34,425.62	68,272.13	53,020.51
Wooden ware	55,317.60	74,335.78	155,859.39	124,370.94	99,307.99	98,999.23	130,276.20	96,346.96	110,636.00	148,301.71
All other articles	73,055.89	156,277.90	147,620.40	82,068.65	224,014.72	403,179.79	340,016.98	223,494.01	360,408.12	292,204.12
Total	1,765,780.32	2,294,905.13	3,313,419.78	2,576,388.36	3,007,462.93	3,638,939.97	3,678,563.01	3,266,545.66	5,414,078.33	4,822,745.29

Table showing the exports from Victoria to the United States during the year 1889.

Articles.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Books			$447.80		$447.80
Bottles, empty			258.59		258.59
Coal	$6,171.76				6,171.76
Cork, virgin	13.58				13.58
Fire-arms				$1,865.12	1,865.12
Ferns		$986.70			986.70
Gum				97.33	97.33
Hops		2,173.93			2,173.93
Hardware				372.98	372.98
Machinery	1,150.00				1,150.00
Mirrors			82.15		82.15
Models, reaper and mower		340.65			340.65
Oil (*Eucalyptus*)		79.94	162.98	82.89	325.81
Photographs	4,922.07				4,922.07
Pelts			71.18		71.18
Returned exhibits	1,941.96				1,941.96
Rugs and mats		133.59	304.18	601.05	1,038.82
Skins:					
Kangaroo	47,807.58	32,197.58	61,649.15	35,612.41	177,266.72
Wallaby			1,388.13		1,388.13
Purdos d'Australia		3,866.03			3,866.03
Sheep casings	22,639.09	10,651.69	12,128.93	6,455.51	51,876.28
Shirtings			282.28		282.28
Tobacco			10.06		10.06
Tin		4,635.51			4,635.51
Wearing apparel		171.62			171.62
Wine	87.75				87.75
Wool	261,748.81		83.93	1,015,989.80	1,277,822.54
Miscellaneous		70.06			70.06
Total	346,492.60	55,307.30	76,869.36	1,061,077.15	1,539,746.41

GEO. H. WALLACE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, December 30, 1890.

IMPORTATION OF HOGS INTO GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to invite attention to the inclosed translation from the Deutsches Reichs Anzeiger of November 11, 1890, from which it will be seen that, by order of the department of the interior and with the approval of the imperial chancellor, the importation of living hogs into the slaughter-house at Schneeberg (Saxony) from Austria-Hungary is allowed until further notice. It will also be observed that the importation of living hogs from Bielitz, Biala, and Steinbruch, in Austria, into the slaughter-houses at Sagan, Sprottau, Lauban, and Jauer, in Prussia, is now permitted.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, November 12, 1890.

[Inclosure in Consul-General Edwards's report.—Translated from the Deutsches Reichs Anzeiger of November 11, 1890.]

The importation of living hogs from Bielitz, Biala, and Steinbruch, in Austria, into the slaughter-houses at Sagan, Sprottau, Lauban, and Jauer, in Prussia, is now permitted.

By order of the department of the interior and with the approval of the imperial chancellor, the importation of living hogs into the slaughter-house at Schneeberg (Saxony) from Austria-Hungary is allowed until further notice.

STOCK-FEEDING EXPERIMENTS.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

For many years back scientific researches have frequently been made in this country on the relative values of the various feeding substances as influencing the yield of milk, and from which considerable variance of conditions in the most important nutritive substances—albumen, fatty and saccharine matter—was shown to exist in the ordinary food stuffs, such as grain, bran, oil-cakes, hay, straw, and roots. Too great inclination, however, was perhaps shown in former researches to view the question in an analytical point of view. Too much work was performed in the laboratory and not sufficient amongst the live animals, and hence the importance of the fodder materials in relation to the animals' digestive process was by no means to be found at all times in accord with the results arrived at from the analytical works of the laboratory. The contributions from several of these researches, as a guide towards a proper course of feeding, were thus of meager value. There the work has been taken up afresh in recent years in a more practical way. Several experimental trials have been set on foot since 1887, which have already borne good fruit, and which, as they are gradually being developed, may prove of great use to agriculturists.

The results obtained from some of the feeding experiments with milch cows in 1887, 1888, and 1889 are now given. The question which it was sought to solve with the experiments of 1887–'88 was whether a sufficient proportion of roots to what might be considered a fairly plentiful feeding, consisting of grain, bran, oil-cakes, etc., together with hay and straw, affected in any perceptible degree the quantity of milk, as also the butter yield.

The experiments in 1888–'89 had partly the same object in view, but partly, also, with the further view of gathering further information as to how far a given quantity of roots and of strong food could take the place of the one or the other without causing any perceptible influence on the milk yield or on the composition of the milk, namely, upon its fatty contents, and also upon the thriving condition of the animals.

The experiments in 1887–'88 were held at five farms with three herds of cows at each farm, each herd consisting of ten to twelve cows. According to the prearranged plan for these experiments, one herd received the same amount of strong food as was given to the remaining animals on the farm, together with hay and straw; the second herd received, in addition, a further contribution of 36 pounds of mangolds, whilst the third herd received the additional contribution of 36 pounds of turnips.

The experiments in 1888-'89 were carried on at each farm with four herds, each herd consisting of ten cows. In order that the food experiment might, so far as possible, be identical with the food generally used on the best dairy farms, the compounding of the fundamental parts was left entirely to the judgment of the parties in charge of these experiments. In this way, of the four different herds of cows, the first was supplied with the ordinary strong food given at the farm; the second received 2 pounds less of strong food, but an addition of 20 pounds of mangolds or 24 pounds of turnips; the third received 4 pounds less of strong food than was given to the first herd, but in substitute thereof 40 pounds of mangolds or 48 pounds of turnips; and, finally, the fourth herd received as full an allowance of strong food as the first herd and an additional contribution of 40 pounds of mangolds or 48 pounds of turnips. The second and third herds represented the normal course of feeding at the farm, just as the farm in question was accustomed to feed with 20 or 40 pounds of roots, and all four herds received a like quantity of hay and straw.

The quantity and composition of the strong food, as well as the amount of hay, varied considerably at the five farms. For example, at one of the farms to the first lot were daily given 7 pounds of strong food per cow, whilst at another farm there were given 12 pounds. It was also here left to the experimental superintendents to determine on which kind of strong food the reduction for the second and third herds should be made.

All the experiments associated with the daily work in the stalls—the weighing of the food, milking, taking milk samples and determining their cream percentage, the weighing of the cows, etc.—was left in the hands of the delegated food superintendents. The actual duration of the experiments comprised six or seven periods, each of ten days. Previous to these there was a preparatory and a transition period. During the preparatory stage all the animals received an identical course of feeding, so that a homogeneous lot of cows might be formed; by which it is to be understood that the lot, as a whole, approached so closely one to the other in the quantity of milk and its fatty contents, in their calving time, weight, and age, that, after best judgment, it might be assumed that these herds, when identically fed during many months, would yield as nearly as possible a like quantity and an equally fatty milk.

To obtain these results it was necessary to institute very careful researches. First of all, it was necessary to form a preparatory herd of animals, with which the work could be carried on until sufficient surety was obtained that the herds were of fully homogeneous nature, and during the transition period the animals were accustomed little by little to such kind of food as they would would receive during the experimental period.

The result of the experiments in 1887-'88 may be briefly given as follows: The additional contribution of root products to the strong food supplied to the animals shows a no inconsiderable increase in the milk yield, as well as in the weight of the animal (greatest with mangolds and less with turnips), and that the feeding with roots has not manifested any discernible influence upon the fatty contents of the milk or other chemical compound. The opinion previously held by many, that, though an addition of roots might increase the amount of milk yield, it would at the same time make the milk thinner, is thus proved to have been quite erroneous.

From these experiments, however, all estimates of the money value of the roots employed were omitted, and, as, with the addition of a certain quantity of strong food, similar results might be obtained, the question was suggested that it would be desirable to ascertain how great an addition of strong food would be required in order to obtain the same increase in the milk yield, as also in the weight of the animal, as with the roots. This question was sought to be solved with the experiments carried on in 1888–'89. The result of these was that in the food mixtures employed during these experimental trials 10 pounds of mangolds or 12 pounds of turnips and 1 pound of strong food were found to offer compensation as closely as possible one for the other, both with respect to the quantity of milk or its composition and the animal's weight. Thus the money value of 10 or 12 pounds of roots can be placed at the same value as 1 pound of strong food.

It is still felt here, however, that these experiments, so far as they have been carried on, have gone no further than to give a reply to one definite question, which, no doubt, is of great practical interest; but, at the same time, they should only be considered as the commencement of a greater work, and that the questions to be solved hereafter must be more numerous and of wider range. The goal, if possible, should be the obtaining of reliable results as to what food and mixture should be employed which under given conditions would produce the greatest possible milk yield and the finest quality of butter at the smallest possible cost. Some of the difficulties attending the solution of these points must be faced, namely, what influence does the breed, age, weight, milking properties, etc., of the animal exercise over such results?

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, December 27, 1890.

Farming in Scotland.—This year shows large imports of Canadian cattle. Indeed, their numbers cause much astonishment, and the figures they realize are often above the general expectation. They pay the feeders more than home beasts. This is, perhaps, fortunate, inasmuch as the farmer, who has to live largely by fattening beeves, has in this trade an added chance for comfortable existence. The truth is, as I formerly reported, that agriculture, to pay, must now be many-sided. The latest movement is in the direction of the breeding of horses for road and field, for cart and plow.—JAMES D. REID, *Commercial Agent, Dunfermline, December 10, 1890.*

GERMAN SUGAR-BEET LEGISLATION.

REPORT BY COMMERCIAL AGENT WASHBURN, OF MAGDEBURG.

INTRODUCTION.

Two things have contributed to Germany's present ascendency in the production and exportation of raw beet sugar: the first is the superiority of soil and climate for the growing of the beet root; the second is the peculiar encouragement given the industry itself by the Government. It is to this latter factor that I wish to call attention in this report.

NATURE OF THE GERMAN TAX AND HOW IT WORKS.

The imposing of a tax on raw beets destined for the manufacture of sugar, with the accompanying rebate for the finished product when exported, is German in its origin, and is known as the "material tax," or "weight duty." This system presents no difficulties so long as the manufactured sugar goes into the home consumption, because the State treasury retains the amount of the tax in full. The moment, however, that the product is destined for the foreign market it imposes upon the customs authorities the responsibility of determining the exact amount of rebate to be granted. Though it is universally recognized that the effect of the present system is one of concealed bounties, the theory of the law is that of re-imbursement. In other words, the Government contracts to return the amount of the tax upon all exported sugar, thus enabling the seller the better to compete in the world's market. To this end it is necessary to establish by law the estimated amount of raw beets required to produce a given quantity of sugar. Clearly, this will vary in different years and in different districts. An average rebate is therefore always sought. It thus happens that to those factories which work up beets rich in sugar and which have improved appliances the rebate comes, not as a re-imbursement only, but as a bounty as well.

LEGISLATION, PAST AND PRESENT.

The history of recent sugar legislation is one of experiments, but all consistently tending towards one ultimate object—the suppression of the premiums. Prior to 1861 no rebate was allowed. The material tax pure and simple had, however, existed since 1844. The law of September 1 of that year placed the duty at 30 pfennigs* per 100 kilograms† of raw beets. This tax was steadily increased from time to time up to the passage of the present law, when it was materially modified.

The accompanying table shows the amount of tax per 100 kilograms from 1844 to 1891.

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*1 mark of 100 pfennigs=23.8 cents.

†1 kilogram=2.205 pounds.

Period of enforcement.	Amount.	Period of enforcement.	Amount.
	Marks.		*Marks.*
September 1, 1844, to September 1, 1850	0.30	September 1, 1869, to September 1, 1886	1.60
September 1, 1850, to September 1, 1853	0.60	September 1, 1886, to September 1, 1888	1.70
September 1, 1853, to September 1, 1858	1.20	September 1, 1888	0.80
September 1, 1858, to September 1, 1869	1.50		

Law of 1869 and its important results.—In 1869 a thorough classification of the material tax and rebate took place. This law remained unchanged until 1883, and is regarded as having a more important bearing on the development of the beet root industry than any other law which has been placed on the statute books. Its main provisions are here appended. It imposed a weight duty of 1.60 marks upon each 100 kilograms of raw beets. Upon home or foreign sugar exported beyond the customs frontier the following rebate was granted per 100 kilograms: (1) For raw sugar of at least 88 per cent. polarization, 18.80 marks; (2) for candy and sugar in white, full, hard loaves up to 25 pounds net weight or sugar crushed in the presence of the customs authorities, 23 marks; (3) for all other hard sugars, as well as for all white, dry (containing not less than 1 per cent. of water) sugar in crystals, crumbs, or flower form of at least 98 per cent. polarization, 21.60 marks. To receive the benefit of this drawback the amount exported must at least have reached 500 kilograms. Exportation could only take place through custom-houses indicated by the Bundesrath, and fines and penalties were attached for false declarations.

Two important results of this law are to be noted. Since the tax was imposed, not on the sugar itself, but on the raw beets, farmers took great pains to increase the saccharine richness of the beets, and the manufacturers strove to devise more economical methods of extracting the sugar. What this means is most forcibly illustrated by a reference to recent French legislation. In 1884 it was estimated that it required about 17 tons of roots in France to produce a ton of sugar, as against 9½ tons in Germany for the same purpose. In that year the German material tax was adopted.

Its results are seen in the following table, which shows the quantity of raw beets required to produce a double centner* of sugar for the years 1884–'85 to 1889–'90, inclusive:

Year.	Quantity.	Year.	Quantity.
	D. centners.		*D. centners.*
1884–'85	15.02	1887–'88	9.44
1885–'86	11.42	1888–'89	9.16
1886–'87	10.15	1889–'90	8.56

For the current year it is believed that the ratio will sink to 7.50 double centners of raw beets to 1 double centner of sugar.

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* 1 double centner=100 kilograms.

Experimental legislation.—As a source of revenue, the law of 1869 was a failure. While under its fostering provisions the production of sugar was yearly increased, and with it the export trade, the receipts from the material tax showed no corresponding growth. Accordingly, measures looking to the modification of the law were initiated by the preliminary act of July 7, 1883. This act merely lowered the rebate scale and proposed further legislation in two years. In the meantime, in the autumn of 1883, a commission was appointed which examined carefully into all proposals relating to the taxing of sugar. Their recommendations were embodied in a report to the Reichstag in the early summer of 1884 (June 11). Following this on May 13, 1885, the law of 1883, about to expire by time limit, was given another year's lease of life, that is, until August 1, 1886. This afforded opportunity for further investigation. The result was the law of July 1, 1886. This measure raised the material tax 10 pfennigs and still further lowered the rebate scale. It was hardly published before it was seen to be insufficient. A considerable bounty was still possible. Just what the bounty was I have not been able to learn. In a speech on July 9, 1884, the French minister of agriculture is reported to have said that it was equivalent to 3 francs per 100 kilograms on the whole crop and 7 francs on the amount exported.

Unsatisfactory results of the present law.—It becoming evident that no effectual reform could be had by adhering to the old system, a new principle, more sweeping and radical in its provisions than any thing hitherto attempted, was introduced into the law of July 9, 1887. This was the consumption tax, by which all sugars entering into home consumption were required to pay a certain duty. The old material tax on the beet root and the rebate were still retained, though both were reduced. This law, which is still in force, went into effect on August 1, 1888. The schedules were arranged as follows:

The material tax was fixed at 80 pfennigs per 100 kilograms. This was a reduction of 90 pfennigs.

The rebate per 100 kilograms was: (1) For raw sugar of at least 90 per cent. and for refined sugar containing less than 98 per cent., but at least 90 per cent., of sugar, 8.50 marks; (2) for candies and for sugars in white, full, hard loaves, blocks, plates, sticks, or cubes, or crushed in the presence of the revenue officers and for other sugars of at least 99½ per cent. purity which at any time may be classified by the federal council, 10.65 marks; (3) for all other hard sugar, as well as for all white, dry (not containing over 1 per cent. water) sugar in crystal, crumb, or flower form containing at least 98 per cent. sugar, so long as they do not fall under 2, 10 marks.

The actual workings of this measure, while yielding to the imperial treasury a larger income than was possible under the old system, do not seem to have met the expectations of its projectors. It seems to be regarded as a financial fiasco, and it is believed that handsome profits still accrue to the manufacturers.

The clear amount received by the Government from the sugar tax for the last five years, after deducting the managing expenses, which are reckoned at about 4 per cent., is:

	Marks.
1885–'86	16,932,822
1886–'87	13,510,145
1887–'88	21,270,284
1888–'89	47,298,681
1889–'90	60,369,848

An analysis of the receipts for the last two working years, during which time the additional consumption tax provided for by the new law has been in force, shows the following:

1888–'89.

	Marks.	Marks.
78,961,830 double centners of raw beets were consumed, on which there was a material tax of 80 pfennigs per 100 kilograms		63,169,464
From this re-imbursements were allowed:		
On 4,124,242 double centners of raw sugar at 8.50 marks	35,056,057	
On 1,641,518 double centners of candies at 10.65 marks	17,482,167	
On 156,506 double centners of crushed sugar at 10 marks	1,665,060	
		54,103,284
		9,066,180
Deducting managing expenses at 4 per cent		2,526,779
Net receipts from the material tax		6,539,401
Net receipts from the consumption tax		40,759,280
Total income		47,298,681

1889–'90.

98,250,394 double centners of raw beets at 80 pfennigs		78,600,315
The re-imbursements were:		
On 4,938,309 double centners of raw sugar at 8.50 marks	41,975,627	
On 2,157,366 double centners of candies at 10.65 marks	22,975,948	
On 94,917 double centners of crushed sugar at 10 marks	949,170	
		65,900,745
		12,699,570
Managing expenses at 4 per cent		3,144,013
Net receipts from the material tax		9,555,557
Net receipts from the consumption tax		50,814,291
Total income		60,369,848

The present bounty, or profit, accruing to the manufacturers is conceded to be about 2 12 marks per 100 kilograms. During the last year it is estimated that the Government suffered a net loss of 16,000,000 marks.

PROJECTED CORRECTIVE LEGISLATION.

To correct permanently this condition of affairs the Reichstag has now under consideration a measure which proposes to abolish altogether the old material tax, or weight duty, and with it the system of rebates. The consumption tax is increased to an amount which is considered equivalent to the present weight and consumption duty. Though the rebate is withdrawn, all sugar intended for export is exempt. During the year 1889–'90 about 4,400,000 double centners of sugar entered into the home consumption. This is considered as a normal yearly consumption in the German sugar-taxing districts. Without regard to the natural increase of the population or the increase of consumption per head, it is believed that an average yearly consumption of 4,500,000 double centners can be reckoned upon in the near future. This amount of sugar, taxed at 22 marks per double centner, would give an annual return of about 99,000,000 marks, which, after deducting the necessary collecting expenses, would leave to the imperial treasury a clear total of about 95,000,000 marks, as against about 60,000,000 marks under the present arrangement. Such a showing, it is argued, could not be brought about by adhering to the present system.

ARGUMENT FOR AND AGAINST THE NEW METHOD OF TAXATION.

In support of this innovation it is urged that the expenses of the Empire have increased to a very great degree during the past few years and that it can be predicted with certainty that they will continue to increase. This is due, first of all and chiefly, to the enormous military outlay for the improvement of the national defenses. As secondary causes, the new pension insurance law and the increases granted to the various states for their own purposes are mentioned. The present income is inadequate to meet these growing demands, and other and more profitable sources of taxation must be found. The proposed law does not contemplate any added burden, but simply the doing away of the bounty as such.

On the other hand, the combined sugar interest is unanimous in strenuous opposition to the new measure. It is maintained that the present duty is indispensable to a successful competition with foreign producers, notably the French, who are at present receiving decided Government encouragement. It is pointed out that the French premium amounts to 7.50 francs for every 100 kilograms, the Austrian to 3.20 marks, and the German only to 2.12 marks. This, in United States currency, would be as $1.45, 75 cents, and 50 cents, respectively. Moreover, the Austrians have the additional advantage of buying at paper and selling at gold value. The complaint is also made that during the last year German sugar was constantly underbid in the London market by French and Belgian sellers.

If this condition of things actually exists, it will deal a severe blow to the German export trade, which is estimated, in round numbers, to equal three-fifths of the entire production. Of this England takes a good share. Out of 601,681 tons of sugar, molasses, and sirup exported in 1888, England received 274,277 tons. This is about five and a half times the quantity sent to any other one country.

The United States, according to the German official figures, received a relatively small amount. It is to be said, however, that this amount has been rapidly increasing of late; indeed, the increase during this last year was the most striking feature of our sugar importation. It was nearly three times as much as the year previous and made Germany second only to Cuba as our source of supply. The value of the sugar received by the United States from the most important sugar centers for the fiscal year ended June 30, 1890, was as follows:

Country.	Value.	Percentage.
Cuba	$39,099,670	38.61
Germany	16,098,224	15.90
Hawaiian Islands	11,559,142	11.42
British West Indies	8,910,130	8.80
Philippine Islands	6,817,866	6.73
British Guiana	4,325,370	4.27
Porto Rico	3,681,247	3.81
Dutch East Indies	2,722,320	2.69
San Domingo	1,715,460	1.70
Brazil	1,659,251	1.64
Austria-Hungary	1,578,494	1.56

The value of the sugar exported by Germany to the United States in 1887–'88 and in 1888–'89 was $1,321,516 and $5,814,407, respectively.

Aside from the alarm expressed by the exporters for the security of foreign trade, there is the cry of the manufacturers that the abolishing of the material tax will disastrously affect the quality of the beets. Attention is called to the French experience. It is further claimed that the burden of the new law will fall most heavily upon the agricultural and laboring classes. In order to compete at all under the new conditions, the cost of production must be lowered. Therefore, the farmer will have to accept a lower scale of prices for his beets and the wage earner for his wages.

RECENT FRENCH LEGISLATION AND THE M'KINLEY BILL.

It is interesting to note, in connection with this agitation, a recent petition forwarded to Chancellor von Caprivi in the name of the Association for the Beet Root Sugar Industry of the German Empire. It bears the date of November 7, 1890. After reciting the objections which have already been alluded to in this report, it proceeds to consider two other dangers which have lately arisen. One is the hostile French legislation of July and August of the present year; the other is the McKinley bill. By the former the duty on all foreign sugar is raised and German molasses is shut out altogether from the French markets. As to the recent tariff legislation in the United States, the prediction is made that, under the bounty system and with the aid of improved machinery, Florida and Louisiana will be able to produce nearly 500,000 tons of sugar. Moreover, the fear is expressed that what is known as the reciprocity clause may work serious harm to the German sugar interests. In the language of the petition, this "falls all the harder upon our manufacturers, because under former laws they had always reckoned upon a good market in the United States." The recent interest taken in the

United States in the growing of the beet root is another disquieting feature. The report continues:

> It is not doubted that a country with such enormous plains can cultivate beets. Even in Germany, with the light of our present experience, we are not now so particular as regards the soil and climate for beet cultivation.

CONCLUSION.

What effect this opposition will have upon the Reichstag is not yet apparent. The whole course of legislation of late years, though, leaves no doubt that the Government is in earnest in its endeavor to suppress premiums. It is safe to predict that such suppression can not be much longer delayed.

Several tables are here annexed. In Table A it is instructive to note that, while the quantity of beets annually worked up is now triple the amount so employed in 1871–'72, the number of factories has only slightly increased, showing a great increase of capacity, due in a large measure to the substitution of the diffusion process. The apparent discrepancy in the amount of income received into the imperial treasury, as shown in Table B and as elsewhere given for the last five years, may be explained by the fact that Table B takes into account the amount of duty received from imported sugar and the rebate afterwards granted.

TABLE A.—*Production and use of beets.*

Year.	Number of factories in operation.	Quantity of beets used.	Raw sugar of all sorts.	Molasses.	Quantity of raw sugar extracted from 100 kilograms of taxed beets.
		Tons.	*Tons.*	*Tons.*	*Kilograms.*
1871–'72	311	2,250,918	186,422	63,892	8.28
1872–'73	324	3,181,551	262,551	91,589	8.25
1873–'74	337	3,528,764	291,041	105,818	8.25
1874–'75	333	2,756,745	256,412	97,603	9.30
1875–'76	332	4,161,284	358,048	133,952	8.60
1876–'77	328	3,550,037	289,423	111,101	8.15
1877–'78	329	4,090,968	378,009	122,813	9.24
1878–'79	324	4,628,748	426,155	133,652	9.21
1879–'80	328	4,805,262	409,415	131,371	8.52
1880–'81	333	6,322,203	555,915	164,984	8.79
1881–'82	343	6,271,948	599,722	150,813	9.56
1882–'83	358	8,747,154	831,995	196,305	9.51
1883–'84	376	8,918,130	940,109	207,978	10.54
1884–'85	408	10,402,688	1,123,030	259,700	10.79
1885–'86	399	7,070,317	808,105	180,178	11.43
1886–'87	401	8,306,671	985,628	215,887	11.87
1887–'88	391	9,963,961	910,698	183,037	13.03
1888–'89	396	7,896,183	944,505	201,189	11.96

TABLE A.—*Production and use of beets*—Continued.

Year.	Quantity of beets required to produce 1 kilogram of raw sugar.	Quantity of beets raised by factory owners.	Quantity of beets cultivated by factory owners.	Quantity produced per hectare.
	Kilograms.	*Tons.*	*Hectares.*	*100 kilos.*
1871-'72	12.07	1,504,351	73,690	204
1872-'73	12.12	2,101,301	82,590	254
1873-'74	12.12	2,420,909	88,877	272
1874-'75	10.75	1,908,095	92,655	206
1875-'76	11.62	2,836,307	96,724	293
1876-'77	12.27	2,490,154	98,725	252
1877-'78	10.82	2,872,775	104,783	274
1878-'79	10.86	3,114,030	107,679	289
1879-'80	11.74	2,850,586	113,003	252
1880-'81	11.37	3,871,679	118,431	327
1881-'82	10.46	3,431,754	121,256	283
1882-'83	10.51	4,448,632	129,262	344
1883-'84	9.49	4,205,064	140,843	299
1884-'85	9.26	4,936,246	150,077	329
1885-'86	8.75	4,199,047	138,869	302
1886-'87	8.43	4,436,084	147,782	300
1887-'88	7.65	3,797,652	143,853	264
1888-'89	8.36	4,209,942	149,411	282

TABLE B.—*Taxes and rebates in the German customs territory.*

Year.	Total receipts, including amount from import duty.	Tax rebates.	Net receipts.	Per head of population.
	Marks.	*Marks.*	*Marks.*	*Marks.*
1844-'45 to 1849-'50	20,457,800	2,578,400	17,879,400	0.61
1850-'51 to 1855	21,119,600	2,212,900	18,906,700	0.57
1856 to 1860	27,374,300	1,368,900	26,005,400	0.78
1861 to 1865	32,708,800	864,200	31,844,600	0.90
1866 to 1870	39,537,400	4,198,500	35,338,900	0.94
1871-'72 to 1875-'76	58,872,500	4,159,000	54,713,500	1.32
1876-'77	60,154,500	11,618,200	48,536,300	1.13
1877-'78	67,824,600	18,009,100	49,815,500	1.15
1878-'79	76,171,800	25,627,100	50,544,700	1.15
1879-'80	78,605,000	24,399,500	54,205,500	1.22
1880-'81	102,645,000	56,496,500	46,148,500	1.12
1881-'82	101,869,200	44,992,200	56,877,000	1.26
1882-'83	141,684,600	74,397,700	67,286,900	1.49
1883-'84	144,090,600	96,302,300	47,788,300	1.05
1884-'85	167,821,600	128,452,700	39,368,900	0.86
1885-'86	114,559,800	90,067,600	24,492,200	0.53
1886-'87	142,445,200	108,821,000	33,624,200	0.72
1887-'88	120,245,300	105,568,000	14,677,300	0.31
1888-'89	110,171,100	80,076,100	30,095,000	0.62

ALBERT H. WASHBURN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Magdeburg, December 27, 1890.

GAME PRESERVATION IN GERMANY.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

Observant Americans, traveling by rail through Germany during the late summer or autumn months, are often astonished by the abundance of hares, partridges, and pheasants, which are to be seen in the fields and thickets along the railways, or by roebuck—from two to a dozen or more together—feeding in pastures and meadows and scurrying into the adjacent woods on approach of the train. This surprise is usually augmented when, at some country station, the traveler sees a party of sportsmen returning to town with the proceeds of a day's shooting. Remembering the denuded condition of the older and more thickly settled portions of our own country in all that respects field and woodland game, the impression is apt to come home to the transatlantic tourist that in this respect at least the Germans manage better than we have done. In fish culture and the skillful breeding of many kinds of animals the Americans are unsurpassed, if equaled, by any people of Europe; but in making marketable game a plentiful product of fields that have been cultivated since many centuries before America was discovered the Germans have, it would seem, set an example which we may study with interest, if not profit.

It is proposed in the present report to consider the German system of game protection and management from a purely economic stand-point. Aside from all consideration of shooting as a fascinating, healthful sport for men who are ordinarily confined to the wear and fatigue of city life, there is the practical question whether the growth of wild game may not, under proper conditions, be made to add in America, as it does so largely in Europe, to the annual cash product of fields and woodlands, even in the most thickly settled States and in the vicinity of large cities.

It was but natural that a people busy with the task of clearing and settling a country so vast as ours should, until within recent years, have regarded game birds and animals as part of the spontaneous product of the land, the property of whoever might take the trouble to pursue and kill them. Not within many centuries has any such easy-going indifference on that subject prevailed in these older nations of Europe. From the days when the game belonged to the Crown and hunting was the exclusive privilege of the king and the nobility, game birds and animals have been recognized as property not less tangible and defensible than domestic poultry or cattle.

With the imperial preserves of Germany and the vast estates of the wealthier aristocracy, where stags and pheasants are reared and tended by liveried gamekeepers for wholesale slaughter on princely hunting days, the present report has, for obvious reasons, no concern. All that belongs to a social and political condition so remote from our own as to divest it of all practical interest in this connection. But the imperial and grand ducal preserves cover but a small proportion of German territory. The vast bulk of it is possessed by individual farmers and communes, and is leased, so far as shooting privileges are concerned, to individuals or small clubs of professional and business men in the neighboring towns and cities for an annual rental, which amounts in the aggregate to many millions of marks and constitutes one of the important revenues of the agricultural class. In no respect are the provincial governments of Germany more jealous of national interference than in regard to their game laws. Prussia, Bavaria, Hesse, Würtemburg, and Baden have each their separate code for the protection of game and the regulation of shooting privileges; but, as it will be impossible to consider them all within reasonable space, we may fairly select as an example the code of Prussia, which is as fair and intelligently framed as any, and will serve to illustrate the system which has proved so successful and advantageous in this country.

One of the important provisions of the Prussian code is that which permits any proprietor of landed property to kill game at proper seasons in any part of his premises that may be inclosed by a fence or wall, but which denies him this privilege on any piece of uninclosed land which is less than 200 acres in extent. In the latter case the game on the farmer's land reverts to the care of the commune in which he lives, which rents the shooting privileges of all such territory within its limits, crediting to each farmer his due share of the aggregate rental, proportionate to the area of his land.

As nearly all farming lands in Germany are owned in small tracts by peasant farmers who live in villages, and as such lands are rarely or never inclosed by any semblance of hedge or fence, it follows that most field shooting is leased by the communal authorities at prices which vary from 20 to 75 cents per acre annually, thus adding an additional crop, so to speak, to the yearly product of the ground. These shooting privileges are leased usually for terms of six, nine, or twelve years. Competition is by auction at the office of the communal burgomaster, and the lease goes to the highest bidder who can furnish satisfactory guaranties as to financial responsibility. The lessee then becomes responsible, not only for the proper care of the game in the fields and woods covered by his lease, but also for whatever damage the game may inflict upon growing crops. Should the hares injure the beets and turnips or the deer from the adjacent forest trespass upon the wheat or rye fields, the farmer summons the two communal assessors appointed for that purpose, who examine the premises and estimate the amount of damage, which the lessee of the shooting is required to pay. If he finds the tax excessive, he may nominate a third member of the board and call for a reappraisement of the damage. The lessee also employs a local gamekeeper, who earns a yearly salary ranging from $200 to $300, and whose business it is to look after the game, kill foxes, hawks, and other carnivorous creatures, and prevent poaching.

Nothing could better illustrate the universal respect for the rights of property in this country and the absence of that lawless, predatory spirit which pervades some less strictly governed communities than the entire immunity from irregular depredations which is secured to partridges, pheasants, hares, rabbits, and other small game, even in the immediate neighborhood of populous German villages. The peasant farmer is satisfied with a system which secures to him a full cash value for all the game which his land may produce, as well as prompt payment for whatever damage the same may inflict upon his crops, and at the same time protects his fields from trespass by unauthorized persons or at seasons when the grain and grass might be injured thereby, for the game laws carefully prohibit field shooting until such crops are gathered.

An important feature of the protective system is the law which forbids any person from hunting or using a gun unless he is provided with the legal *Jagdpass*, or license. This license is issued by the local magistrate in each district to applicants of good standing, who must be not less than eighteen years of age, and, if under twenty-one years, must be vouched for by some responsible person. The pass is for one year, costs from 75 cents to $3, according to the varying regulations of the different provinces, and bears on its reverse side a checkered design showing the open and close months of the year for each kind of game. To be found outside of one's own premises with a rifle or fowling-piece and without a *Jagdpass* involves the confiscation of gun and accouterments. This arrangement effectually eliminates the professional poacher and the predatory small boy with the cheap shot-gun, who have been so destructive to singing birds, as well as to furred and feathered game, in some other countries.

GAME BIRDS AND ANIMALS OF GERMANY.

These include, principally, the stag, the fallow deer and roedeer, hares and rabbits, the capercailzie (or *Auerhahn*), pheasants, partridges, snipe, woodcock, wild ducks and swans, and several other varieties of birds, not to speak of fish otters, foxes, and badgers, which are killed for their fur or because they are destructive to fish and smaller game.

Keeping still in view the economic aspects of the subject, the practical question would be, which of these varieties might be most easily transplanted to the thickly settled portions of the United States and grown there under conditions similar to those which exist in Germany. The climate of this country does not differ essentially from that of the Northern and Middle States of our Republic. With the exception that the proportion of woodland to open fields is larger with us than here, and that the American farmer keeps his land inclosed by fences and lives on it instead of in a neighboring village, the principal conditions are nearly similar. The proportion of pasture and meadow to plowed land is greater in most American districts than in Germany, but this would be to the advantage of the game rather than otherwise. In most States of the Union the laws distinctly recognize the right of the landowner to the game birds and animals on his property and enable him to defend that right against trespass. There would seem to be no reason why at least four of the species which are now grown so abundantly for sport and profit in Germany should not be at least equally successful in almost any part of the United States. These are the pheasant, the gray partridge, the hare, and the roedeer, all of which live and thrive in proximity to man and may be easily transferred to any locality suitable to their existence.

The gray partridge (*Rebhuhn*) of northern Europe is in size about midway between the quail and prairie-chicken of the United States, the former of which he strongly resembles in appearance and disposition. Although less beautiful than the red-legged partridge of southern Europe, he is not less "gamey" in the field or delicious on the table, his flesh resembling strongly that of our native quail. This species lives in the open fields and meadows of Germany, even close to the villages and farm-houses, and subsists at all times upon food precisely similar to that of the American quail and prairie-chicken. The female lays in May or early June from sixteen to twenty eggs, and, if foxes, weasels, or cold, protracted rains destroy her young brood, she makes another effort and brings forth her second hatching in July. The partridge-shooting season begins in Prussia on the 1st of September, by which time the young birds, except those of the second hatchings above noted, are well feathered, strong on the wing, and nearly full grown. Each brood forms a covey, and, like the prairie-chicken, they are at first tame and comparatively easy shooting, but with experience and the advancing season they become wilder and stronger; so that, although they are always "game" and lie well to a dog, particularly when approached from leeward, they are in later October and November sufficiently difficult to satisfy the most exacting sportsman. Partridges sell in the market at from 50 to 75 cents each, and, although killed in immense numbers, are always in demand. It is no unusual thing in this region to kill during a season two or three hundred birds on a farm not exceeding 150 acres in extent, and there are several preserves in the open fields along the Rhine between Mayence and Mannheim, where the average annual score exceeds a thousand.

It is, of course, quite at variance with American or English ideas for a sportsman to sell his game or consider in any way its market value, but in Germany no such squeamishness prevails. The product of each day's hunt, except what the master wants for his own use or chooses to present to friends, goes to the game dealer, who has a standing contract with the sportsman to take his entire product at prices agreed upon in advance, and which are rigidly adhered to.

Until within a few years most sportsmen who leased shootings in this part of Germany could pay their rent and hire of gamekeeper, and even save a profit, from the proceeds of their game. This enabled many men of limited means to lease lands which would have been quite beyond the reach of their unaided private incomes, and thus practically the whole territory—woods, field, marsh, and mountain—was then, as now, leased for shooting purposes. But, with the rapid increase of wealth and the growth of the class of men able to afford the luxury of hunting, the competition for the best grounds has become so sharp that the rental has advanced enormously within a short period, so that comparatively few shooting leases are now self-supporting, that is, paying by sales of game the cost of rent, gamekeeper, and damage by game to growing crops. Many shooting privileges in this region which were leased at auction during the past year have brought three times the rental of the previous lease made six years ago, and some communes now pay their local and national taxes from the revenues thus easily obtained. When it is considered how burdensome taxation has become to the German peasantry, the advantage of being able to pay this obligation in hares, partridges, and pheasants grown spontaneously on their lands will be at once apparent.

The pheasant of Germany is identical with that of England, France, and Austria, and is an exotic in Europe, having been brought many centuries ago from its native haunts in the Himalayan districts of India, by way of Asia-Minor, into European Turkey, Austria, and particularly Bohemia, where it is now found wild in immense numbers. The pheasant is a showy bird, of moderate merit for the table, except as an ornament, but nevertheless much esteemed for its beauty and for the easy, comfortable shooting that it affords. Pheasants are easily bred in this region from birds or eggs obtained from Bohemia, where the females cost from $1.75 to $2 each, the cocks, in the proportion of one to eight or ten hens, costing somewhat less.

Any person who has a few acres of thick wood with underbrush or open thicket sufficiently tall to furnish good cover has the necessary conditions for growing pheasants, which subsist on wild berries, buds, and the grain that they pick up in the adjoining fields. During hard winters, when the snows lie long and deep on the ground, careful sportsmen keep their pheasants within limits by feeding them grain; but there is in this part of Germany, so far as can be learned, none of that wholesale growing of pheasants in parks like chickens, that is so common and so costly on the great manorial estates of England.

The cock pheasant may be lawfully shot in Prussia during the whole year, except June, July, and August, the female only from the 1st of September until the end of January. In most preserves the hen pheasants are rarely or never killed unless the stock becomes too numerous, which it may easily do unless the birds are prayed upon by foxes, hawks, and weasels, which are the persistent enemies of game in the most parts of Germany. For this reason foxes, cats, and even stray dogs found at large upon land rented for shooting purposes may be, and usually are, killed at sight. Aside from its natural enemies, the pheasant is a prosperous and prolific bird, and there would seem to be no reason why it should not thrive abundantly in almost every part of the United States. Birds and eggs for breeding purposes may be obtained in almost any quantity from dealers in Bohemia; but, as the demand is considerable from France, England, and western Germany, it is often requisite to give the order some weeks in advance of the laying season, which is in April and May.

The roedeer is the smallest and most nearly domesticated of the three species of deer which inhabit Germany. It is likewise the most beautiful, and its flesh is the daintiest venison known to the epicure. In color, form, grace, and fleetness it resembles more nearly the antelope than other species of deer. It lives abundantly throughout the forests of central Europe, but prefers thickets of underbrush in the vicinity of open fields and meadows to the darker and denser woods which form the haunts of the stag and fallow deer. It is this tractable, half-domesticated disposition, its willingness to live in close proximity to the homes of men, that makes the roedeer the valuable game animal that it is. It is no unusual circumstance to find from six to a dozen of these shy, graceful creatures living in a piece of woodland less than 30 acres in extent, and they are so abundant in this region that hunting parties frequently kill in a single day within 10 miles of Frankfort anywhere from ten to forty of them. The roebuck may be killed throughout the year, except during March and April; but the doe is protected by law ten months out of twelve, and may be shot only from the 15th of October to the 15th of December. The buck sheds his horns in December, and from that time until May looks so much like a doe that he is comparatively safe from sportsmen; but in the early summer he is again in season, and until September, when the stag and the partridge shooting begins, he has the hunters practically to himself. Roedeer which live in the neighborhood of cultivated fields often inflict damage upon the growing wheat and rye; but this the thrifty peasant takes immediate note of, and, under the law already noted assesses the damage upon the lessee of the shooting title. For this reason some of the best hunting leases command but a small rental, and I know of one instance in which a sportsman pays only 150 marks ($35.70) per annum for the rent of nearly a thousand acres, but distributes each year from $1,000 to $1,200 among the neighboring peasants for the damage done to their crops by his hares and deer. This occurs generally in districts where the proportion of wooded land to arable fields is but small; but the law which holds the game proprietor responsible for its depredations is an eminently just one, and takes from the farmer all temptation to destroy the game in self-defense.

But the plain, reliable, every-day game of the average German sportsman is the hare. It resembles in appearance the brown American rabbit, but is much larger, and its flesh decidely superior; moreover, the hare, unlike the rabbit, never burrows, but lives wholly above ground, inhabiting the bleak fields in winter, with no other lair or shelter than a small open hollow scooped out beside a protecting clod or stone. More rarely the hare inhabits thickets and small woodlands adjacent to farms, but in deep, dark woods he is seldom found, and never in any great numbers. But in the open fields of southern and western Germany the hare swarms in such profusion as to form one of the definite products of the land. Although not entitled to high rank as game, either for the table or the sportsman, the hare is a coveted luxury to the poor and middle classes, and in some markets, notably that of Paris, is always in demand. At the same time it offers to the sportsmen a pot shot sufficiently attractive to amuse the most competent, and not so difficult as to discourage the inexperienced, gunner.

The mother hare bears annually two, sometimes three, litters of from eight to a dozen leverets, which, although decimated by cold, wet weather and preyed upon by foxes, hawks, and other enemies, still make a brave struggle for life; so that by September, when the shooting season begins, they are as plentiful as field-mice. Except for the few that are shot during the partridge hunting, hares are not killed to any great extent until December, when the great *Battues*, or drive hunts, are made, which supply the winter market. Although much less destructive to gardens and young trees than our rabbit, the hare is so prolific that, unless kept in check by judicious hunting, he might soon become a source of anxiety to the farmer. In view of this, the law provides that the lessee of field shooting in Prussia shall drive hunt the entire area of his lease not less than once in each year. Accordingly, the whole agricultural territory must be shot over by the *Treibjagd* process annually, and the operation is often repeated when the first hunt has left too large a surplus of hares for the next year's breeding. Drive hunting for hares is not, perhaps, an exalted form of sport, but it is always sociable and jolly and has the further advantage that it gets the hares.

For a well-organized hunt of this kind from fifteen to thirty sportsmen are requisite, with twice as many men and boys from the neighboring villages, who are marshaled by the gamekeeper to serve as beaters to drive the game. The fields or woods are then taken by sections as large as the line of hunters and drivers can surround, and, although with skillful shooting more or less game always gets through the line and escapes, the slaughter is often enormous. It is no uncommon occurrence for a party like this to kill in a short winter day upon 300 or 400 acres of wheat and beet fields within half an hour's drive of Frankfort from 400 to 500 hares. As they average in winter about 8 pounds in weight, the result of such a day's shooting would be nearly or quite 2 tons of game, a quantity which it would be, of course, impossible to dispose of otherwise than by sale. Game killed in such quantities must either be sold or wasted, and in this country, where waste is considered sinful, the hares or deer or partridges, as the case may be, are turned over to the game dealer, who during the season loads daily a special car for the Paris market. The game dealer pays from 50 to 75 cents each for hares in Germany; they retail for from 5 to 7 francs in Paris. The French capital pays yearly millions of francs for game brought from beyond the Rhine. By the sale of his game the lessee of shooting grounds recoups, more or less fully, his expenditures for rent and keepers, and the money goes finally to the peasant or landed proprietor upon whose premises it was grown. From the beginning of the hunting season until the end of December, 1890, there have been killed in Prussia alone, according to official statistics, 2,500,000 hares, which, at 2.50 marks each, the usual wholesale price, represent an income of 6,250,000 marks, or nearly $1,500,000.

The invitations which are exchanged between sportsmen to make up the number of guns requisite for a drive hunt constitute an important form of social courtesy in Germany. The entertainment always includes a midday breakfast, more or less luxuriantly served at the tavern in the nearest village or upon tables spread in the woods by servants, who bring warm dishes, wines, etc., from the home of the host in the city.

Such, in substance, is the German system. Could it be introduced successfully and profitably in the United States, and, if so, would such introduction prove desirable? Competent judges who have given the subject careful thought answer both these questions in the affirmative, and say that the game laws of several Northern and Eastern States are already adequate to render the raising of game in the woods and fields of ordinary farms sufficiently secure to insure a successful result. A system which would add an additional crop to the farmer's fields and forests, and thereby increase substantially his cash income from his land, would certainly not lack support from the agricultural majority which controls most State legislatures.

There are, of course, many questions of detail which such an experiment would involve, and into which it is impossible at present to enter; but, after all that has been so successfully done in our country to restock the inland lakes and streams with fish, there ought to be some way of restoring in a measure the game birds and animals which were formerly so abundant and which have become, through indiscriminate shooting, so rare to the sportsmen, so costly in our markets. This can only be done by making game preservation easy, inexpensive, and withal profitable to owners of the land. The German system has made game abundant throughout the Empire, and yields an important income to the class which is in most need of it.

The experiment in America would need to be systematic, but not necessarily expensive. A dozen pairs of partridges, pheasants, and hares, imported from Germany or Austria, turned loose on almost any American farm and protected from molestation three or four years, would multiply so that they would thereafter hold their own against any reasonable and sportsman-like pursuit. The larger the territory included in such experiment, the more certain would be its success. There is the disastrous experience of Australia with the English rabbit, which might make some American farmers timid about introducing the hare; but it must be remembered that the European hare is a very different animal from the rabbit of either Australia or America. Besides being far less destructive and prolific than the rabbit, the hare does not burrow, and, being, therefore, always above ground and accessible, its numbers can be easily kept within safe and reasonable limits.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, January 3, 1891.

LINSEED IN THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

The flax industry in this country is only a very recent branch of its agriculture. It is only within the last few years, indeed, that it has had any development at all, and as yet there is very little to be said about it.

A COMPARATIVELY NEW INDUSTRY.

As late as 1877 the custom-house returns do not show that a pound of the seed had ever been shipped from any Argentine port. In 1878 the exports amounted to 35 tons; in 1880 the amount shipped had increased to 958 tons; in 1881 it was 6,394 tons; in 1882 it was 18,644 tons; and in 1883 it was 23,061 tons. About this time, owing to the steady foreign demand and the good prices which were obtained for the seed, a very general interest was manifested, not merely in the production of the linseed for foreign consumption, but also in the preparation of the fiber. Since then, with the advent of agricultural laborers from Europe, there has been a gradual increase in the breadth of land under this crop, the yield of which is variously stated to be from 20 to 40 for 1, and for which the country seems to be very well adapted.

The range of the exports of linseed since 1883 will be seen from the following table:

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1884	33,991	1888	40,222
1885	69,426	1889	28,195
1886	37,689	1890 (9 months)	30,542
1887	81,204		

BREADTH OF LAND IN FLAX CULTIVATION.

The cultivation of linseed, however, is as yet almost exclusively confined to the provinces of Santa Fé and Buenos Ayres, though a little is now also grown in the province of Entre Rios. In 1881 the amount of land under flax cultivation was as follows, in hectares: Province of Buenos Ayres, 29,192; province of Santa Fé, 6,122; total, 36,314. In 1889 the breadth of land under this crop was as follows, in hectares: Province of Buenos Ayres, 43,899; province of Santa Fé, 73,009; province of Entre Rios, 4,161; province of Rioja, 34; total, 121,103. As the total area of land under crop cultivation in the Argentine Republic is 2,422,995 hectares, it appears that the amount at present put down in flax is only about 5 per cent. of the whole.

AMOUNT OF THE HARVEST.

I am unable to answer your inquiry as to the total amount of flax produced in the Argentine Republic. There is no way of obtaining the information, as the Argentine Government has no provision for crop reports. We can only estimate, and it is estimated that the harvest in the province of Santa Fé last year amounted to 56,887 tons, while that of Buenos Ayres was about 25,000 tons; total crop, say, 100,000 tons, including Entre Rios. In regard to the approaching harvest, it is stated that the acreage is larger than ever before, and, unless some misfortune overtakes the crop, the yield will show a very considerable increase over that of any previous year.

THE COMING CROP.

What the shipments will be, however, will depend a good deal on the price abroad, for there is now an annually increasing home market for the crop, as several oil-mills have recently been established in the country, and great hopes are entertained that the production of linseed-oils will henceforth be added to the category of national industries.

DESTINATION OF CROP.

The next crop will be harvested and ready for shipment about the 1st of March, and the business will probably run through the quarter ending June 30, 1891. The shipments will all go forward either from this port or Rosario. It is not possible to say whither the crop will be exported, but, as a general indication of the direction it will take, I give the following destinations which the shipments of 1888 and 1889, according to the custom-house returns, appear to have had:

Destination.	1888.	1889.
	Kilograms.	*Kilograms.*
Germany	1,805,604	1,792,338
Belgium	3,490,721	2,623,180
Brazil	114,575	826,100
United States	2,123,470	6,755,263
France	4,917,427	2,134,329
Italy	121,061	1,422,525
Holland	....	322,790
Great Britain	27,650,030	12,289,203
Uruguay	....	10,088
Total	46,222,888	28,195,816

MARKET VALUE.

The price of linseed in this market during the last year, according to the returns of the Buenos Ayres Bolsa, ranged as follows: January 1 to March 31, 57 to 70 cents; April 1 to June 30, 45 to 65 cents; July 1 to September 30, 45 to 75 cents; October 1 to December 31, 60 to 80 cents, in current money per 10 kilograms. So far during the present year there has been a slight increase in the price.

CONDITIONS OF FLAX CULTIVATION.

As to the mode of cultivation here, I am but indifferently posted; but, if it differs at all from that employed in the United States, it is certainly not for the better. I assume this to be so for the reason that no crops in this country receive that care and attention which good husbandry exacts. I may add that the crop is not a favorite one, although it is believed to pay well, for the reason that it is thought that the cultivation very rapidly exhausts the land, so that most of the production is by those who do not own, but only rent, their farms.

It is only necessary to add, in regard to soil and climate, that flaxseed culture is exactly under the same conditions as that of wheat or corn.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, November 20, 1890.

THE WINE INDUSTRY OF RUSSIA.

TRANSMITTED BY MR. WURTZ, SECRETARY OF LEGATION, ST. PETERSBURG.

[From statistics supplied by the Russian Government.—Translation.]

Of all the plants cultivated in the southernmost zone of Russia, the vine is incontestably the most important. Cultivated since the highest antiquity in certain localities of the south, it grows in a wild state in the countries bordering on Asia, on the southern slope of the Caucasus. There, in the damp and warm valley of the Rion and its neighborhood, the vine attains prodigious dimensions, and its branches, embracing, like ivy, the trees, produces without the least cultivation fruit in abundance. From the ancient Colchide, which, according to all appearances, is the native country (*patrie*) of the vine, it has spread in times beyond the memory of man over all the shores of the Mediterranean to the mountains of central Asia on the east, and gradually, but already as a cultivated plant, advanced to the north far from its home.

In Russia the northern limit of the cultivation of the vine has not yet been definitely fixed. It is certain that it is spreading, though slowly, more and more to the north. It crosses the southern region of the governments (provinces) of the basin of the Vistula, of the government of Minsk (near Pinsk), passes to the south of Chernigov towards Koorsk, Voronezh, Borissoglebsk, Saratov, and crosses the Ural in the environs of Gouriev. Nevertheless, under exceptionally favorable conditions and by assiduous care the vine can bear ripe fruit much further to the north than the limit indicated; for example, in the environs of Riga, in Courland, and even in the district of St. Petersburg. In Asiatic Russia the northern limit of the vine crosses the basin of Turkestan, the province of Semiretchinsk, and the basin of the Amoor, where a particular species of vine grows (*Vitis amurensis*). As to the northern limit of the cultivation of the vine for the industry of wine making, it extends from Moheelev, on the Dniester (48° 27′), above the Schpola, government of Kiev (49°), to the north of the governments of Kherson and Yekaterinoslav, crosses the Don (48° 35′), passes over the Volga at Sarepta (48° 31′), and inclines to the south at the opening of the Ural.

The vertical extent of the culture of the vine is very vast. In Bessarabia vineyards are found at 1,110 feet above the level of the sea; in the Crimea, at a height of 1,000 feet; in Turkestan (at Samarcand) the vine prospers at 2,340 feet; and, finally, in certain localities of the Transcaucasus (province of Kars) the grape ripens at 4,500 feet of altitude. The viticultural countries of Russia may be grouped in the following regions: (1) Region of Bessarabia, (2) region of the Crimea, (3) region of the Don, (4) region of Astrakhan Ural, (5) region of the Caucasus, and (6) region of Turkestan.

I. REGION OF BESSARABIA.

This wine-growing country embraces all of Bessarabia, the districts of Tiraspol and of Odessa, of the government of Kherson, the districts of Olgopol and of Yampol, of the government of Podolia, as also of some parts of that of Yekaterinoslav, that is, the districts of Yekaterinoslav and of Novomoskovsk. The planting of the vine in Bessarabia is attributed to the Greek colonists, who established themselves there two or three centuries before the Christian era, and to the Genoese, who founded their colonies on the northern border of the Black Sea in the eleventh and twelfth centuries. Later the Turks also planted numerous vineyards in the southern part of Bessarabia. In the governments of Podolia and Kherson the cultivation of the vine dates only from last century and in that of Yekaterinoslav it is quite recent. At present, from the data furnished, there are in Bessarabia about 60,000 deciatines* of vinyards spread over districts in the following manner:

District.	Area.	District.	Area.
	Deciatines.		*Deciatines.*
Kishenev	15,952	Soroka	615
Bender	8,000	Akkerman	20,000
Bieltsy	1,763	Ismail	9,500
Chotyn	100	Total	60,330
Orkhei	4,400		

The government of Kherson possesses 3,581 deciatines of vineyard, of which the district of Tiraspol counts 2,601 deciatines and that of Odessa 980 deciatines. The government of Podolia (principally the districts of Olgopol and Yampol) has 400 deciatines of vineyards; that of Yekaterinoslav has but little over 200 deciatines. Thus the total wine-growing country of Bessarabia is about 64,500 deciatines. It should, however, be pointed out that the planting of the vine is extending more and more. The situation and exposure of the vineyards is very varied. In Bessarabia (in the southern parts) and on the inundated shores of the Dniester they occupy the plains; in the northern and central parts, the slopes to the north and northeast. In the governments of Podolio and Kherson they grow almost exclusively on the southern slopes and to the southwest. The plants are cut long or short, the medium length rarely. In winter the plants cut long are buried under the ground; those cut short remain on the level with the ground or only their trunk is buried. In the viticultural region of Bessarabia there is a numerous variety of plants; nevertheless, the plants of the country predominate, excepting in certan localities of the government of Kherson, where foreign plants are specially cultivated—Riesling, Gutedler, Traminer, Chasselas. Among the local varieties the most common are Poma Plavae, Poma Galbina, Tita Caprei, Poma Negra Rara, Poma Negra Batuta, etc. In the number of diseases which attack the vine in the wine-growing region of Bessarabia are to be mentioned: *Phytoptus vitis*, *Erysiphe* (oidium) *tuckeri*, *Peronaspora viticola*, and *Phylloxera vastatrix*, in places in the districts of Orkhei and of Kishenev. The treatment of the cryptogamian diseases of the vine is not made anywhere. The plants infected by the phylloxera are radically destroyed. The product of the vineyards is very varied; it depends upon the care given in the cultivation, on the situation, on the exposure of the vineyards, or also on meteorological causes, and on the diseases. The mean product in Bessarabia is 200 vedros† per deciatine; in the government of Kherson, 300 vedros; and in Podolia, 175 vedros. The production of wine in the viticultural region of Bessarabia is very considerable; it has tripled in the last ten years.

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*1 deciatine=2.6997 acres. †1 vedro=3.245 gallons.

At the present time the total production of wine in Bessarabia reaches 11,250,000 vedros, spread over the districts as follows:

District.	Product.	District.	Product.
	Vedros.		*Vedros.*
Kishenev	3,190,400	Soroka	92,250
Bender	1,600,000	Akkerman	3,000,000
Bieltsy	352,600	Ismail	1,900,000
Chotyn	15,000	Total	11,250,000
Orkhei	1,100,000		

In the government of Kherson the production of wine is:

	Vedros.
District of Tiraspol	780,000
District of Odessa	100,000
Total	880,000

The production of wine in the government of Podolia is estimated at 70,000 vedros; that of Yekaterinoslav, at 10,000 vedros. The production of wine in the viticultural region of Bessarabia reaches yearly 12,270,000 vedros, that is to say, to almost half of the total production of wine in Russia. As to quality, the wines of the viticultural region of Bessarabia are very inferior to the renowned growths of the Crimean and of the Caucasus. They are acid, watery, only slightly alcoholic, and little apt to improve by barreling (*cuvage*). That is caused by the defective method of cultivation of the vines, as also of the methods of preparation and conservation of the wines. There are, nevertheless, in the southern part of Bessarabia wines of the district of Akkerman which can rival the best growth of the Crimea.

The following table furnishes the results obtained from the analysis of the wines of Bessarabia:

Description.	Red wine.	White wine.
	Per cent.	*Per cent.*
Density	0.9941	0.9922
Volume of alcohol:		
Minimum	8.24	10.08
Maximum	13.15	12.47
Medium	11.2	11.61
Weight of alcohol (medium)	8.79	9.47
Total acidity:		
Minimum	0.315	0.407
Maximum	0.796	0.662
Medium	0.544	0.577
Extract:		
Minimum	1.826	1.812
Maximum	3.12	2.154
Medium	2.266	1.914
Glycerine (medium)	0.329	0.437
Sugar (medium)	0.387	....
Tannin (medium)	0.279	....
Volatile acids (medium)	0.14	0.092
Succinic acid (medium)	0.06	0.08
Tartaric acid (medium)	0.188	0.162
Azote (medium)	0.031	0.024
Ashes (medium)	0.199	0.175

A large portion of the wine is sold at once after its preparation, either as must or as new wine. There are few wine-growers who keep their wine for a whole year and still fewer who let it rest longer. Fifteen per cent. of the total production is consumed by the wine-growers themselves. Of the 85 per cent. for sale, one-quarter is consumed on the spot; the remainder is exported to the governments of the center, of the north, and of the west of Russia. The price of the wine, on account of the inferiority of its quality, is low; it varies according to its age. New wine of the peasants is sold at from 40 copecks to 1.50 rubles per vedro (the ruble is equal to about 55 American cents); that of the better class (*propriétaires*), from 80 copecks to 1.50 rubles. The price of a vedro of wine from three to five years old is from 2 to 6 rubles and even reaches sometimes as high as 10 rubles. A deciatine (*arpent*) of vineyard badly kept gives a net profit of from 25 to 50 rubles, and brings in as much as 200 rubles and more to the proprietors who cultivate their vineyards better.

2. REGION OF THE CRIMEA.

The wine-bearing region of the Crimea comprises the government of Taurida, of which the most important wine-growing centers are found in the peninsula of that name. While the continental districts of viticulture and of wine making are still of recent date, the quantity of wine there produced is quite considerable. On the southern coast of the Crimea one still meets in inaccessible places the vine in its wild state, so that it is difficult to say whether the first wine-growers found it as it is or whether it was brought from the transcaucasian provinces. At all events, admitting this last supposition, the planting of the vine must have taken place at a very remote period. According to the most ancient information gathered relative to viticulture in the Crimea, it is known that the Greeks cultivated the vine in their colonies, and that later they were supplanted in these places by the Italians. At the time of the Tartar domination viticulture and wine making fell into decadence, but since the last century—that is, since the annexation of Taurida to Russia—these branches of industry have rapidly developed. One can judge of this readily by the following figures representing the production of the vineyards of Taurida: In 1823 the vineyards produced 143,432 vedros of wine; in 1833, 200,000 vedros; in 1849, 652,370 vedros; in 1870, 934,000 vedros; and to-day the production of wine in the Crimea exceeds 1,000,000 vedros a year. At the present time the vineyards of Taurida cover an extent of 6,548 deciatines, distributed as follows by districts:

District.	Area.	District.	Area.
	Deciatines.		*Deciatines.*
Yalta	1,500	Melitopol	244
Theodosia	2,117	Perekop	30
Simferopol	1,400	Eupatoria	
Dnieper	92	Total	6,548
Berdiansk	1,165		

Thus the vineyards in the viticultural region of the Crimea occupy a surface of about 6,550 deciatines, a figure much less, doubtless, than the reality, in view of the ever-increasing number of new plantations, especially in the continental districts of Taurida. In the flat countries of the Crimea the vine is planted in regular rows; on the steep slopes, in terraces generally exposed to the south, southeast, and southwest. In Bessarabia the vines are frequently mingled with fruit-bearing trees, whereas in the Crimea they present uninterrupted expanses of about 50 deciatines. On the southern coast of the Crimea 9,600 plants per deciatine are counted; at Theodosia, from 600 to 10,000; at Simferopol, from 2,400 to 4,800.

The number of varieties of vine (*cépages*) cultivated in the Crimea is very great. No less than six hundred may be counted, most of which have been imported from France, Italy, Spain, and other viticultural countries of Europe, as also from America and the Cape. There is no considerable extent planted with one kind alone; in general, the vineyards are composed of every kind of vine, so that in the fabrication of certain wines as many as fifteen kinds of grapes are used. It is easily understood that this state of things is little favorable to the production of typical wines of the Crimea. The most common vines are:

Red.—Albourlah (Crimea), Alcatico Nero, Alma Ouzum, Alicante, Carbinet Sauvignon, Franc Pinot, Gros Gamay, Saperair (Caucasus), Grenache, Malhec, Traminer.

White.—Albillo de Huebla, Blanc Sémillon, Chasselas de Fontainebleau, Clairette, Gamay White, Pinot White, Riesling, etc.

Among the most common diseases of the vine are: *Erysiphe* (oidium) *tuckeri*, *Sphaceloma ampelinum*, *Peronospora viticola*, *Coccus vitis*, *and Phylloxera vastatrix*. Sulphur is employed in combating the oidium in most of the vineyards on the southern coast; the other diseases are generally left without treatment. The vines affected by the phylloxera are destroyed. In the continental districts and in those of Simferopol and Eupatoria the plants are covered with earth during the winter, while in the others the vines remain exposed.

The total production of the vineyards of the viticultural region of the Crimea is distributed by districts as follows (approximative figures):

District.	Production.	District.	Production.
	Vedros.		*Vedros.*
Yalta	300,000	Melitopol	16,500
Theodosia	600,000	Perekop	4,000
Simferopol	350,000	Eupatoria	
Dnieper	9,000	Total	1,369,500
Berdiansk	90,000		

The above figures must be less than the real production, in view of the continued planting of new vineyards and the extension of the old ones. The medium production annually of the vineyards of the Crimea is not fixed; it depends upon climatic causes, on the vines, and the care bestowed upon the cultivation. The best crops are given by the thinly planted plantations in the fields well watered, while the vintages are less in the vineyards where the vines are close together and badly irrigated.

The only precise data of the annual production are of the vineyards situated on the southern slope of the Crimea. In 1884 the production per deciatine was valued at 110.8 vedros; in 1885, at 117 vedros; in 1886, at 159 vedros; in 1887, at 70.3 vedros; and in 1888, at 147 vedros. The production of the vineyards of the other localities of the Crimea is much greater; at Soodak, for instance, the deciatine gives from 300 to 500 vedros.

Although among the viticultural regions of Russia the Crimea enjoys exceptionally favorable conditions, viticulture and wine making leave much to be desired. Alongside of the great proprietors, who have brought the viticultural industry to perfection as regards care of cultivation and methods of wine making, one sees wine-growers engaged in this branch of rural economy in the most defective manner, who make acid, watery, and rough (*âpres*) wines. The best growths of the Crimea are the great wines like liqueurs or cordials (*grands vins liqueureux*), which keep perfectly and improve with time, but their production is of small amount. The other wines of the Crimea are generally made with the grapes from foreign vines, and resemble the product of the same plants, at the same time containing more alcohol, sugar, and less of acidity, which one must attribute to the more southern position of the Crimea. The red wines of the Crimea are generally wanting in perfume (bouquet). This is remedied by mixing with them some white wine rich in perfume. Besides this, all the red wines are distinguished by a strong roughness (*aputé*), which must be attributed to the defective fabrication and care given to them. With age they acquire softness and fineness. The best wines of the Crimea are those of the district of Yalta or of the southern coast; they are of easy conservation, strong, thick, and aromatic. Then immediately after come the wines of the district of Theodosia, where, by reason of the irrigation (*arrosage*) of the vineyards, they are more watery, lighter, and somewhat more acid. Finally, the third rank for these viticultural products is held by the districts of Eupatoria, Berdiansk, of the Dnieper, Melitopol, and Simferopol. The wines of the last district are superior to the others.

The following table supplies information on the composition of the wines of the Crimea:

Description.	Southern coast.			The valleys, district of Theodosia.		
	Red wines.	White wines.	Dessert wines.	Red wines.	White wines.	Dessert wines.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Density	0.9939	0.9927	1.04	0.9964	0.9939	1.039
Alcohol:						
Volume—						
Minimum	10.76	11.93	10.53	10.31	9.08	....
Maximum	14.32	16.93	15.29	11.94	14.61	....
Medium	13.3	14.35	12.92	11.19	11.88	15.53
Weight of alcohol (medium)	16.71	11.86	11.03	8.93	9.54	12.14
Total acidity:						
Minimum	0.35	0.322	0.33	0.58	0.525	....
Maximum	0.735	0.642	0.732	0.72	0.854	....
Medium	0.621	0.492	0.493	0.638	0.61	0.567
Extract:						
Minimum	2.765	7.353	10.7	1.569	1.773	....
Maximum	3.08	4.515	21.58	3.49	3.4	....
Medium	2.761	2.569	14 925	2.409	2.317	5.54
Glycerine (medium)	0.638	0.589	0.232	0.324	0.51	0.505
Sugar (medium)	....	1.223	6.554	....	....	3.234
Tannin (medium)	0.272	....	....	0.143	....	....
Volatile acids (medium)	0.142	0.1	0.111	0.174	0.174	0.66
Succinic acid (medium)	0.112	0.119	....	0.065	0.085	0.101
Tartaric acid (medium)	0.182	0.165	0.053	0.18	0.118	0.041
Azote (medium)	0.034	0.026	0.017	0.028	0.029	0.022
Ashes (medium)	0.267	0.204	0.426	0.217	0.22	0.314

The price of the Crimean wines, on account of the superiority of their quality, is higher than that of the wines of Bessarabia. The dearest wines are those of the southern coast, for which the price per vedro in 1884 was 4.09 rubles; in 1885, 4.60 rubles; in 1886, 5.87 rubles; in 1887, 5.76 rubles; and in 1888, 5.57 rubles. The price of wine at Theodosia varies from 1.50 to 4.50 rubles per vedro and in the other districts from 1 to 2 rubles. Ninety per cent. of the total production of the wine of the viticultural region of the Crimea is put on sale; 10 per cent. only is used on the spot. The commercial region for the sale of the wines of the Crimea is very vast; it comprises all of European Russia and even a part of Siberia. The net profit of a deciatine of vineyard in the Crimea varies from 150 to 500 rubles.

3. REGION OF THE DON.

The viticultural region of the Don comprises the vineyards situated principally in the first and second districts of the Don, on the land of the Cossacks of the Don; in the other districts (Donets, Tcherkask and Oust-Medvieditza) the vines occupy only a limited space.

The origin of viticulture in the basin of the Don is lost in antiquity; possibly the first plantations were made by the Greeks and Genoese. With time viticulture on the Don fell so low that it required an edict of the Emperor Peter the Great to restore it to vitality. By this edict vines from France and Astrakhan were ordered to be brought for planting in the environs of the towns of Timliansk and Razdorsk, which are still to-day the great centers of the viticultural industry of the Don. Up to the end of the last century this branch of rural economy developed very slowly, but since has made rapid progress; for since the year 1820 the wine of the Don had taken so great an extension that it was sold, not only in the center, but even in the north, of Russia. The severe winters without snow of 1847 and 1848 destroyed more than three-fourths of the vineyards of this region. Then the drought of the summer following and the rivalry of the wines of the Crimea struck a terrible blow at the viticultural industry of this country. But since then the vineyards have multiplied and the production of wine has sensibly increased.

At present, according to the returns of 1884, one can count 8,115 vineyards, extending over 2,440 deciatines, distributed by districts as follows:

Districts.	Number.	Districts.	Number.
The Don:		Donets	74
First district	6,123	Tcherkask	49
Second district	1,609	Miousk	7
Oust-Medvieditza	153	Total	8,115
Choper	100		

The vineyards of this region cover the sides of the hills exposed to the south, to the southwest, and southeast, and follow the right bank of the Don. The vines are planted in certain places in regular rows, but generally they are dispersed here and there without order or method, and thus form enormous bushes. The cultivated varieties are not many; almost all are of the degenerated kinds of plants imported from France and Astrakhan and have lost their ancient names. The most common vines at present are: Of the white, Ladanny, Blanc Rond, White of Tsyenlsansk, Poukhlakofsky; of the red, Black Vinny, Kransnostopy, etc. Diseases of the vine are almost unknown. The methods of wine making in the viticultural region of the Don are almost everywhere very imperfect; the same may be said of the care and the conservation of the wine, which is almost nothing. Therefore, the quality of the wine of the Don leaves much to be desired.

It is difficult to determine exactly the quantity of wine produced in this region on account of the lack of precise information; as much as 500,000 poods* are gathered, of which one-tenth is sold for the table at Moscow, Voronezh, and Rostoff, on the Don. An equal quantity is consumed on the spot, and only 60 to 75 per cent. is used for wine making. One may say that the viticultural region of the Don produces no less than 200,000 vedros annually. It is thus seen that the wines of this region occupy one of the lowest grades among Russian wines; they contain little alcohol, are watery, and soon deteriorate. At the same time it is difficult to judge of the natural qualities of the wines of the Don in view of the falsification of the greatest part of them in changing them into sparkling drinks by the saturation of the wine by means of carbonic acid.

The wines of this region are sold soon after the casking, and a wine of three or four years of age is a great rarity.

The following table presents to us the composition of the medium wines of the Don:

Description.	Red wines.	White wines.
	Per cent.	*Per cent.*
Density	1.278	1.051
Alcohol:		
Volume	8.06	9.65
Weight	5.02	7.3
Total acidity	0.34	0.525
Extract	8.333	1.64
Glycerine	0.25	0.312
Sugar	7.26	8.26
Tannin	0.186	......
Volatile acids	0.024	0.131
Succinic acid	0.05	0.062
Tartaric acid	0.129	0.071
Azote	0.011	......
Ashes	0.14	0.25

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* 1 pood=36.07 pounds.

The prices of the wine are varied. Ordinary wines bring from 1.30 to 2 rubles per vedro; those of Tsimliansk reach sometimes 10 rubles. The market for the wines of the Don is somewhat limited; it comprises the southeast of Russia and certain governments of the center. They are little known in the north of Russia.

4. REGION OF ASTRAKHAN URAL.

The viticultural region of Astrakhan Ural comprises the southern part of the government of Astrakhan and the neighboring territory of the mouth of the Ural. There is no precise information concerning viticulture in this latter region. It is known only that there are vineyards at the mouth of the Ural, the production of which is insignificant. Information on the situation at present of viticulture in the government of Astrakhan is also far from being complete. The first plantations of the vine date from the sixteenth century, the first wines being brought from the Transcaucasus, from the town of Shamaka, by Persian merchants.

The most flourishing period of viticulture in Astrakhan coincides with the end of last century and the beginning of this; then, besides a mass of varieties of table grapes, some 50,000 vedros of wine were produced annually. The frosts of 1803 were the first blow to the vineyards; then came competition and the want of water for the irrigation of the vineyards. Such are the causes of the decay of the viticultural industry of Astrakhan. At present the cultivation of the vine and the production of wine are insignificant. Almost all the vineyards of this region are in the environs of the city of Astrakhan, on the southern slopes of the hills, and are watered by the Volga and its affluents. A great number of vines are cultivated which have long since degenerated, and bear local names. It is difficult to estimate the extent of the vineyards of Astrakhan at more than 100 deciatines, producing about 200,000 pounds of grapes. One-tenth of the crop is used for the fabrication of wine; the rest is sold for the table in the governments situated on the Volga, and even at Moscow and St. Petersburg. According to the returns for 1870, the government (province) produced about 1,500 vedros of wine; for 1880 the sum of 30,000 rubles was derived from them, which leads to the supposition that the quantity of wine produced must have amounted at the minimum to 100,000 vedros.

5. REGION OF THE CAUCASUS.

The origin of viticulture in the Caucasian countries goes back to antiquity. Every thing indicates that it dates from the establishment of the first inhabitants in those localities, where the vine grows in a wild state. The viticultural region of the Caucasus comprises the vast territory extending between the Cavity Kouma-Manitch on the north and the frontier line which separates Russia from Turkey and Persia on the south; consequently, all the Caucasian governments. By the quality, as by the quantity, the viticultural region of the Caucasus occupies the first rank in Russia; but the rational methods of viticulture are still very little known in the Caucasus. Except in a limited number of plantations, where the cultivation of the vine and the preparation and preservation of the wines are carried out according to regular usage, many vineyards are seen where the same operations are performed as primitively and as defectively as two thousand years ago. The extent of vineyards in the Caucasus is constantly increasing, especially in western Caucasus. The methods for the preparation and preservation of the wines are improving, it is true; but, on the other hand, the vineyards are attacked by a crowd of cryptogamian maladies and by other pests, which annihilate many plantations or render them unproductive, so that the augmentation of the vineyards in filling up the damage caused by these diseases maintains the viticultural production nearly at the same level. The viticultural region of the Caucasus is naturally divided with the northern Caucasus and the Transcaucasus. Northern Caucasus comprises the provinces of Kooban, Terek, Daghestan, and the government of Stavropol; Transcaucasus, the district of the Black Sea, with the section of Sookhoom, the governments of Kootais, Tiflis, Yelisavetpol, Erivan, Bakoo, and the province of Kars.

Province of Kooban.—In this country, with the exception of the peninsula of Taman, where the vine was planted by the Greek colonists before the Christain era, viticulture began to develop only thirty years ago. The vineyards are chiefly situated on the banks of the Kooban, and, occupying the central part of this province, cover a surface of about 500 deciatines. The vines are rather numerous. Foreign vines are cultivated in profusion, which have been received from the Crimea and from the Don—Malaga, Madelum, Olivette, Silvaner, Chasselas, Franc Pinot, Zante, Pinot Gris, Reisling. Among the diseases are to be mentioned oidium and phylloxera. A deciatine produces 150 pounds of grapes, of which 30 per cent. is used for wine making and the rest is consumed as grapes. The result is, therefore, that the total viticultural production of the province of Kooban reaches little more than 25,000 vedros. The wines are watery, acid, and, in general, of mediocre quality. They are sold in the neighboring towns, at Taganrog and at Rostoff, on the Don.

Government of Stavropol.—In this province the first vineyards date from the end of last century; but their number has considerably increased in this country, and especially these last years. The vineyards cover a total surface of 4,500 deciatines, and lay on the slopes towards the south and southwest of the banks of the Kouma. They are planted with different vines, which are supposed to have come from the Crimea or from the Don. There is little irrigation of the vines, and they are buried in the winter. The crop of a deciatine is estimated at about from 300 to 800 poods of grapes, most of which is employed for wine making, the rest being consumed at the table. The government of Stavropol produces annually 400,000 vedros of wine (principally red), rather weak, rather sour, and of defective preparation. As soon as barreled, it is sent to the fairs of the province of Kooban and of the government of Stavropol. This wine is known under the name of wine of Prascovia, village of the name, a great viticultural center on the Kooma. The price of the wine, on account of its mediocre quality, is low, from 70 copecks to 1 ruble per vedro. A considerable part of the must is destined for the distillation of spirits (*eau de vie*).

Province of Terek.—The planting of the vine in this province goes back to a remote period, but only since the second half of the sixteenth century has any thing been known about it. Viticulture dates from the foundation of the town of Kizliar, which took place towards the middle of last century. The first inhabitants were natives of the transcaucasian provinces. They imported into the province of Terek the vine, which there prospers; the others followed their example in planting vineyards. In the beginning of the present century the viticultural products of their vineyards were so considerable that they sufficed for the consumption of half of Russia. Although at present the production of wine is less, the region of Terek is nevertheless the most important viticultural center of the northern Caucasus. The vineyards of the province of Terek now cover a surface of about 12,000 deciatines, grouped principally in the environs of Kizliar, on the left bank of the Terek, in the province of Kizliar; on the left bank of the Sounji and on the right bank of the Terek, in the district of Grosnzée; and on the plain of the Koumyks, in the district of Kharsouff-Yourt. In winter the plants are almost everywhere covered with earth and abundantly irrigated by canals and by subterranean waters, which are very high near the Terek. Few varieties, principally red, are cultivated—Black Tawlinsky, Karauzum, and Incarnot—the most of which, on account of their inferior quality, are destined for the distillation of spirits.

In certain localities European plants are cultivated—Roulender, Pinot Gris, Silvaner, Franc Pinot, etc. As many as 13,000 vines may be counted per deciatine, giving generally more than 350 vedros of must. A third only of the total quantity of the must is employed in the wine making; the other two portions are distilled. From this it results that the viticultural production of the province of Terek is estimated at 2,000,000 vedros. The defective preparation and conservation of the wines, added to the abundant irrigation, have an unfavorable influence upon the quality of the viticultural production of the country. The wines of Terek are watery, lack perfume (bouquet), become tart easily, and can only be kept by adding alcohol thereto. The price of the wines is low. The vedro is worth from 80 copecks to 3 rubles, rarely more. The must destined for distillation is not often sold for more than 30 to 50 copecks per vedro. The wines of this province have a great sale at the fairs in the south of Russia, Nizhnee-Novgorod, and even reach St. Petersburg.

Province of Daghestan.—Although in this province viticulture is said to date a long time back, the planting of the greater part of the vineyards has nevertheless taken place only since the second half of the nineteenth century. The vineyards are scattered in the districts of Temeer-Khan-Shoora, Kaïtakh-Tabassaran, Avar, Andi, and on the coast of the Caspian Sea towards Derbend. In the north of the country the vines are buried in winter, whilst in southern Daghestan they remain in the open air. The vines there cultivated are very numerous and principally of local origin, imported from Georgia or Persia. The total surface occupied by the vineyards of the Daghestan is estimated at 3,500 deciatines, the product of which is generally from 350 to 400 pounds of grapes per deciatine. As the majority of the population of this province profess Islamism, two-thirds of the crop are consumed as grapes or destined for the fabrication of drinks particularly known under the names "djaba" and "narbec;" the other third is employed in wine making, and gives about 250,000 vedros of wine. The wine of the country, on account of its bad preparation, is of inferior quality, is tart, and can not be kept. The limit of consumption of the wines of Daghestan is inconsiderable, not extending beyond the shores of the Caspian Sea.

From the foregoing figures it is shown that the extent of the vineyards in north Caucasus can be fixed at 20,500 deciatines, the production of which is about 2,675,000 vedros of wine.

In the Transcaucasus there are two great viticultural centers, the government of Kootais and that of Tiflis. The other localities are of but secondary importance.

Government of Kootais—The origin of the cultivation of the vine in this government is lost in antiquity, and dates from the establishment of the first inhabitants, who were the most ancient wine-growers of the valley of the Rion, a country so favorable, not only to the prosperity of the vine in its cultivated state, but to the wild vine also. Almost all the government of Kootais presents the appearance of a continuous vineyard, where it is often difficult to distinguish the planted vine from the wild one, as both wind their branches with the trunks of trees and grow without cultivation. The data on the surface covered by the vineyards at present in the government of Kootais are represented by the following figures:

District.	Area.	Districts.	Area.
	Deciatines.		*Deciatines.*
Kootais	7,715	Osourgheti	1,240
Scharopan	9,220	Ratcha	5,154
Senaki	974	Total	27,993
Zongolidi	2,829		
Letzkhoum	1,461		

Of these 28,000 deciatines of vineyards, 60 per cent. are planted from arborescent vines, which entwine with the trees (these vineyards are called "maglari"), and about 40 per cent. are of vines on props (*échalassées*) cut relatively short (this sort of vineyard is called "dablari"). Many kinds of vines are cultivated, most of them of local origin; foreign varieties are rather rare. The most common vines to be cited are: Red—Isabella, Crakhuna, Alexandrioula, Saperane, Schari-kabistoni, etc.; white—Camuri, Tsalikaouri, Mtsvane, etc. The damp and mild climate of the government of Kootais is not only favorable to viticulture, but, unfortunately, it favors also the development of cryptogamian diseases. The appearance in 1854 of the oidium annihilated almost one-fourth of the vineyards and affected the production of the others. The "maglari" vineyards suffered most. For the last few years the *Peronospora viticola* has been observed, as also the *Sphaceloma ampelinum* and a quantity of other mushroom parasites. Finally, in 1889 a vast extent was found to be invaded by the phylloxera. Treatment of the vine is little used; it is even impossible when the vine climbs on the trunks of trees. The medium product of a deciatine of vineyard in the government of Kootais is about 175 vedros; it is to be observed, however, that the "maglari" vineyards produce little more than 100 vedros (often still less), whilst the "dablari" give from 200 to 350 vedros per deciatine. Thus the government of Kootais produces annually about 4,900,000 vedros of wine. Notwithstanding the defective preparation and want of care, the wines of this government are distinguished by their strength and fine color. They are of agreeable flavor and generally of satisfactory quality. Country wine is sold at from 1 to 4 rubles per vedro. Seventy-five per cent. of the viticultural production is consumed on the spot; the rest is sold in the Transcaucasus, and even penetrates into European Russia. The most celebrated growths are those of Swiri, Satchkheri, Kharaghaouli, Tola, Sadjawakho, etc. In the province of the Black Sea and the district of Sookhoom, countries bordering on the government of Kootais, there are 1,800 deciatines of vineyards, the medium crop of which reaches almost to 75,000 vedros a year.

Government of Tiflis.—The vineyards of the government of Tiflis cover a very considerable extent of ground in almost all the districts, except that of Alchaltzikh. The greatest surface covered by vineyards is in the Kakhetia, in the valley of Alazon (districts of Telav and Signak), where there are as many as 20,000 deciatines. The entire government of Tiflis possesses as many as 29,000 deciatines of vineyards, the annual production of which is about 4,200,000 vedros of wine. Forty per cent. is consumed there; the rest is sold in the Transcaucasus and in the markets of Russia under the name of wine of Kakhetia. The most common among the red vines are Saperavi and Tawkveri; among the whites, Mtzvane, Rkatziteli, Mtzvivane, etc. Foreign vines are relatively rare. The most common of the diseases of the vine are: *Erysiphe* (oidium) *tuckeri*, *Peronospora viticola*, *Sphaceloma ampelinum*, and even the phylloxera (Tiflis). The principal viticultural centers are at the villages of Monkhrani (district of Donscheta), Bakourtzikhe, Kardanakhi, Tzinondali, Monkouzani, Alchmeti, Kvareli, and Napareonli (Kakhetia).

The wines of all this government, excepting those of Kakhetia, are not of a superior quality on account of the bad methods of making and want of care of the wines. Exceptional qualities are only found when the fabrication has been proceeded with rationally (*monkhrani*) and when wine is kept in cellar several years. Country wine is sold at from 1.20 to 2.40 rubles per vedro. The Kakhetia wines justly merit the renown which proclaims them to be the best wines of the Caucasus. Notwithstanding their preparation, their defective conservation, they are thick, generously spirituous, have perfume, and with age become excellent. The inferior wines of Kakhetia are sold at from 1.50 to 1.80 rubles per vedro; medium quality, from 2 to 2.50 rubles per vedro; and the superior wines, from 3 to 5 rubles and more per vedro.

Government of Erivan.—The extent of vineyards of this government may be placed at 6,600 deciatines and the viticultural production at 1,000,000 vedros annually. The largest plantations are at Erivan itself and in the villages of Aschtarak and Vagarschapat. The wines of the country are distinguished by their strength and fineness of perfume; but this is, however, soon lost on account of their defective preparation and conservation. Almost all the wine is consumed in the Transcaucasus, a small portion only being sold in the Russian markets.

Government of Yelisavetpol.—The vineyards of this government cover a surface of 1,600 deciatines, the production of which annually reaches 500,000 vedros of wine. The chief viticultural centers are those of Yelisavetpol and the German colonies Helenendorf and Katerinenfeld. The red wines pass for the best; they are distinguished by their strength and dark color. The wine of the country sells for 1.50 to 2.60 rubles per vedro.

Government of Bakoo.—It is calculated that the vineyards of this government extend over 1,700 deciatines, the production of which is 500,000 vedros of wine yearly. The viticultural industry is centralized principally near the villages of Kurdamir and Matrassy. The wines of the country are strong and a little acid. They sell at from 90 copecks to 2 rubles per vedro. Besides the localities mentioned above, there are vineyards also in the districts of the Transcaucasus of Zakataly, Batoom, and Artveen (government of Kootais), and in the province of Kars. They cover about 2,000 deciatines, producing 20,000 vedros per year. Thus the total surface of the vineyards of the Transcaucasus may be calculated at 70,700 deciatines, producing annually about 11,195,000 vedros of wine.

The following table furnishes the results of the analysis of the wines of the Caucasus:

Description.	Red wines.	White wines.
	Per cent.	*Per cent.*
Density	0.9962	0.9953
Alcohol:		
Volume—		
Minimum	7.8	12.45
Maximum	14.99	14.57
Medium	11.92	13.18
Weight (medium)	9.04	10.43
Total acidity:		
Minimum	0.388	0.326
Maximum	0.602	0.497
Medium	0.434	0.414
Extract:		
Minimum	2.028	2.29
Maximum	3.229	3.841
Medium	2.745	2.977
Glycerine (medium)	0.449	0.519
Tannin (medium)	0.507	....
Volatile acids (medium)	0.047	0.135
Succinic acid (medium)	0.089	0.121
Tartaric acid (medium)	0.13	0.122
Azote (medium)	0.046	0.026
Ashes (medium)	0.265	0.246

6. REGION OF THE TURKESTAN.

Viticulture in Turkestan dates from the most remote period, but the production of wine has been developed only since the establishment there of the Russians. It is calculated that the vineyards cover an extent of 4,000 deciatines. Most of the crop is consumed as table grapes or as raisins; a small portion only is destined for wine making. Vines of the country are generally the only ones cultivated. From 300 to 400 poods per deciatine are produced. The quantity of wine produced in the country, principally at Tashkend, is about 20,000 vedros a year. The wine of Tashkend is distinguished by the abundance of its extract and mineral substances. Some of it is consumed on the spot; the rest is sent to Moscow and St. Petersburg.

In making the total estimates of the extent of the vineyards and of the quantity of wine produced in the different viticultural regions of Russia we obtain the following figures:

Viticultural regions.	Extent of vineyards.	Quantity of wine produced.
	Deciatines.	*Vedros.*
Bessarabia	64,500	12,210,000
Crimea	6,550	1,370,000
Don	2,440	200,000
Astrakhan-Ural	100	10,000
Caucasus	91,200	13,870,000
Turkestan	4,000	20,000
Total	168,790	27,680,000

The exportation of Russian wines is still in its infancy. It is made principally from the ports of the Black Sea and over the frontier of Finland.

In the last four years Russian wines were exported abroad for the following sums:

	Rubles.
1885	71,538
1886	142,763
1887	196,267
1888	185,532

Taking into consideration that in Russia the quantity of vineyards is all the time increasing, and that till now only about 3 to 5 per cent. of the land adapted to the cultivation of the vine is occupied by vineyards, it is to be hoped that in the near future Russia will not only produce sufficient for her own consumption, but also export a considerable quantity of her viticultural products abroad.

AMERICAN LARD IN VENEZUELA.

REPORT BY CONSUL PLUMACHER, OF MARACAIBO.

I inclose a cutting and translation from the Fonografo, a leading journal of this city, respecting the inferior quality of the lard introduced from the United States.

I regret to be obliged to state that for the most part these complaints are but too well founded, and not only in the case of lard, but also respecting butter. There is not so much said, however, about the latter article, as large quantities are also imported from Europe, the best from Denmark, while the trade in foreign lard is entirely monopolized by American exporters.

In previous dispatches I have pointed out the very short-sightedness of our merchants in sending to this country alimentary products of bad quality; but no notice was apparently taken of my recommendations, and to-day American so-called butter is notorious in Venezuela for its absolute worthlessness.

The quality of the lard can be judged of by the inclosed article. Kerosene, imported from abroad, is also an American monopoly; but by far the greater part is unfit for use, and in more advanced countries its sale would, perhaps, be prohibited by law. I have frequently dwelt upon this important subject, and again recommend strongly to our exporters to cease this system of consigning to these countries products which not only are of most inferior quality, but which are even injurious and dangerous.

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, December 10, 1890.

AMERICAN LARD.

[Inclosure in Consul Plumacher's report.—Translated from the Maracaibo Fonografo.]

On account of the breaking out at La Guayra of typhoid fever among several persons who had eaten American canned goods, and for other reasons, the Diario of that city publishes the following:

"Experience is teaching us that what, generally speaking, arrives here under the name of lard neither is the genuine article nor ever will be. Are the North American manufacturers responsible for the multitude of phenomena which take place in the human economy on account of impure alimentation?

"In part, yes; and, partly, no. Cheap lard is ordered—the cheapest that can be obtained—and an article is sent which is worth but from 4 to 5 cents a pound, thus forming a great business for those who find themselves protected by the severe laws of their country.

"Let us, then, search for a method by which we may escape being poisoned. Let the authorities, as is their duty, order an examination of all lard introduced and condemn what is bad, imposing, at the same time, heavy fines upon the importers and publishing the names of the manufacturers. If we can not secure good foreign lard, let us consume the native article."

The Voz Publica, of Valencia, referring to the remarks of the La Guayra colleague, adds the following:

"We do not oppose the opinion of our esteemed colleague of La Guayra respecting the scientific examination of the lard, but we think it better that our Government place a virtually prohibitive duty upon this article. Thus Venezuela would be freed from this danger, and at the same time the breeding of swine would be greatly encouraged.

"Many may say that in that case the price of lard would be increased; but even this would be better than to have the health of the country endangered.

"Let the Government examine the American lard and its introduction would be at once surely prohibited."

SWINE IMPORTS INTO GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to herewith submit a statistical statement showing the importations of swine into the German Empire during the period from January 1 to October 1, 1890.

Table showing the importation of swine into Germany from January 1 to October 1, 1890.

Whence imported.	Hogs.	Young pigs.
	Number.	*Number.*
Parts of Germany not in the customs union	4	23
Belgium	17,314	40,530
Denmark	61,596	....
France	27,760	10,205
Great Britain	8,975	....
Italy	19,824	1,357
Netherlands	125,954	156,803
Austria	76,350	141
Russia	628	92
Switzerland	1,533	2,910
British India	....	1
United States	1	....
All other countries	1	....
Total	339,940	212,062

W. H. EDWARDS,
Consul-General.

United States Consulate-General,
Berlin, November 13, 1890.

LABOR IN AUSTRALASIA.

REPORT BY CONSUL GRIFFIN, OF SYDNEY.

The various labor organizations in Australasia have for some time past been violently opposed to the introduction of labor from foreign countries. At first the opposition was confined to the Chinese and coolie race, but it now appears to have extended to all classes of immigrants.

During the term of office of Governor Bourke the Government adopted a policy of assisted immigration, and, although the policy was of much benefit to the colonies, the pressure was so great against it that it had to be discontinued. This subject, however, was treated at length in my report on immigration into New South Wales, published in the CONSULAR REPORTS. It was held by the workmen here that immigration reduced the demand for labor, and consequently lessened materially the rate of wages, which for many years has been at exceptionally high rates. The cost of living should, however, be taken into consideration, for nearly all kinds of food supplies and house rent are far more expensive than in the United States.

There has practically been no importation of labor into Australia during the last few years. The arrivals in New South Wales during the year 1889 were simply the arrivals from the other Australasian colonies—and not from foreign countries—who came here in the hopes of bettering their condition. The total number of arrivals seawards into the colony in 1889 was 64,197, of whom 44,348 were males and 19,849 females. The total number of departures was 43,557, of whom 29,789 were males and 13,768 were females. It will be seen that the excess of arrivals over departures was 20,640; excess of males, 14,559; of females, 6,081. These arrivals and departures should be considered apart from ordinary immigrants in search of homes or places of settlement, as very little encouragement is now given that class of settlers. All the governments of the Australasian colonies have ceased to assist immigration. Besides, the labor organizations in the colonies have issued manifestoes declaring immigration to be opposed to the best interests of the community, as it has a lowering effect upon the rates of wages. There is, however, strong reason to believe that the introduction of foreign labor would promote many industries which have been allowed to languish through the want of skilled labor. For instance, Australia, which is one of the finest grape-producing countries in the world, actually makes less wine than she made fifteen years ago. There is no prejudice in any of the colonies against foreigners. In fact, the laws are exceedingly favorable to them, for any foreign-born citizen residing here for a period of six months can become naturalized and partake of all the rights and privileges of native-born citizens. In most of the colonies aliens may acquire real and personal property, devise and bequeath it, in the same manner as if they were British subjects. Nevertheless, the foreign-born population is very small; indeed, about 97 per cent.

of the inhabitants of the whole of Australasia are either of British or colonial origin. In Victoria, the population of which ranges next to that of New South Wales, only 112 persons were naturalized during 1889 and only 4,368 from 1871 to 1888, a period of seventeen years, and of this number 2,969 were Chinese, 720 Germans, 65 French, 38 Italian, and the remainder consisted of Russian, Spanish, and other nationalities. In 1889, in Victoria, the excess of arrivals over departures was only 9,484. Mr. Henry H. Hayter, Government statist of that colony, in commenting upon the above fact, says that, while the excess of arrivals over departures was small as compared with that of 1888, the falling off is explained by large numbers having been attracted to the Melbourne International Exhibition during the latter year.

I am indebted to Mr. Hayter for the following table, showing the net immigration from or to different countries for each year from 1881 to 1889, inclusive:

Year.	Immigration into, in excess of emigration from—						Emigration to, in excess of immigration from, NewSouth Wales and Queensland.	Net immigration.
	NewSouth Wales and Queensland.	South and Western Australia.	Tasmania.	New Zealand.	United Kingdom.	Foreign countries.		
1881		192	2,868	1,272	3,960	954	1,924	7,322
1882		2,929	3,455	165	6,702	607	2,978	10,880
1883		2,362	4,500	407	10,276	926	7,441	11,030
1884		768	5,332	796	9,863	1,029	3,647	14,141
1885		6,136	5,076	1,628	8,875	759	7,492	14,982
1886		7,248	5,556	2,694	11,722	2,561	4,479	25,302
1887	939	3,991	3,106	1,538	8,813	3,639		22,026
1888	10,517	3,402	8,649	8,475	9,894	866		41,803
1889		507	5,259	361	10,287	9	259	16,164
Total		27,535	43,801	17,336	80,392	11,350	16,764	163,650

It will be seen from the above table that in the entire period Victoria lost 16,764 persons to New South Wales and Queensland, but gained 88,672 from the other Australasian colonies. The net gain from her neighbors was thus 71,908.

In regard to assisted immigrants to Victoria, in the twelve years from 1871 to 1882 there were 5,547 persons who had free or partially paid passages granted to them. Of these, 3,212, or 58 per cent., arrived in the first year; 5,168, or 98 per cent., in the first three years of the period alluded to. The number then declined rapidly from year to year. Since 1879 only 379 such immigrants arrived; in 1880 there were only 5; in 1881 there was not a single arrival, and only 2 in 1882; and since then no free or assisted immigrants have been introduced by the state.

The subjoined table was prepared by Mr. T. A. Coghlan, the Government statist for New South Wales.

Table showing rate of wages paid in New South Wales during each year from 1830 to 1889.

Year.	Mechanics, per day.	Farm and other laborers, per annum.*	Female servants, per annum.*
1830	$1.58	....	....
1833	1.58	$87.59	$58.39
1836	1.68	....	....
1839	1.74	....	....
1840	1.98	....	....
1841	2.10	....	....
1842	1.98	106.92	68.12
1843	1.44	106.92	58.39
1844	.96	72.90	58.39
1845	.96	87.48	77.86
1846	1.26	97.32	77.86
1847	1.34	111.92	87.59
1848	1.28	102.18	77.86
1849	1.14	85.16	58.39
1850	1.08	85.16	63.74
1851	1.62	97.32	77.86
1852	2.16	131.87	82.72
1853	3.82	136.73	87.59
1854	4.14	150.33	131.87
1855	3.84	170.31	111.92
1856	3.02	170.31	107.05
1857	3.02	170.31	107.05
1858	2.52	194.64	121.66
1859	2.40	170.31	107.05
1860	2.16	170.31	102.18
1861	2.52	170.31	107.05
1862	2.58	170.31	121.66
1863	2.36	156.01	121.66
1864	2.24	140.94	121.66
1865	2.24	140.94	111.92
1866	2.24	140.94	111.92
1867	2.24	140.94	111.92
1868	2.24	140.94	136.25
1869	2.04	151.87	126.53
1870	2.28	156.00	136.25
1871	2.34	136.25	111.92
1872	2.58	156.20	126.53
1873	2.40	156.20	136.25
1874	2.46	156.20	136.25
1875	2.46	156.20	155.71
1876	2.46	156.20	155.71
1877	2.52	194.64	155.71
1878	2.52	194.64	155.71
1879	2.52	180.53	155.71
1880	2.40	160.53	155.71
1881	2.40	160.53	170.31
1882	2.64	226.76	170.31
1883	2.64	226.76	170.31
1884	2.64	226.76	170.31
1885	2.64	226.76	170.31
1886	2.40	226.76	170.31
1887	2.40	226.76	165.44
1888	2.40	226.76	165.44
1889	2.40	226.76	165.44

* Provided with food and lodging.

The quotations for 1877, 1878, and 1879 were at the same rate, and from 1882 to 1885 the rate advanced to $2.68 per day, but in 1886 declined to the present scale of $2.43 per day. A better understanding, however, of the value of the wages paid in New South Wales can be had from the following tables, also prepared by Mr. Coghlan, showing in detail the rate of wages of various trades and the cost of the principal articles of food during the same period:

Table showing rates of wages of various trades, etc., during 1889.

Employment.	Hours of labor.	Wages.						
		£	s.	d.		£	s.	d.
Black iron workers	Per day of 8 hours					0	9	0
Blacksmiths	do	0	8	0	to	0	9	0
Blacksmiths' strikers	do	0	6	0	to	0	8	0
Boiler-makers	do	0	9	4	to	0	10	8
Brass finishers	do	0	9	0	to	0	10	0
Coppersmiths	do	0	9	0	to	0	10	0
Corrugated iron workers	do					0	9	0
Engine drivers	do	0	7	0	to	0	8	0
Engine fitters	do	0	9	4	to	0	10	8
Furnace men	do	0	7	0	to	0	8	0
Galvanized iron workers	do					0	9	0
Iron molders	do	0	9	4	to	0	10	8
Laborers in iron trade	do	0	6	0	to	0	8	0
Mill-wrights	do	0	9	4	to	0	10	8
Pattern-makers	do	0	9	4	to	0	10	8
Tinsmiths	do	0	8	0	to	0	10	0
Turners (iron)	do	0	9	4	to	0	10	8
Wire workers	do	0	6	0	to	0	10	0
Timber workers:								
Cabinet-makers	Per day of 9 hours					0	9	0
Carpenters	Per day of 8 hours	0	10	0	to	0	12	0
Joiners	do	0	10	0	to	0	12	0
Sawyers	Per day of 9 hours	0	9	0	to	0	10	0
Wood carvers	Per day of 8 hours					0	8	0
Wood turners	do					0	8	0
Chinese cabinet-makers	Per week of 54 hours, with board and lodging.	0	20	0	to	0	40	0
Building trades (general):								
Brick-layers	Per day of 8 hours					0	11	0
Gas-fitters	do					0	10	0
Laborers (builders)	do					0	8	0
Painters	do	0	9	0	to	0	10	0
Plasterers	do	0	10	0	to	0	11	0
Plumbers	do	0	8	0	to	0	10	0
Stone-masons	do					0	11	0
Slaters	do					0	10	0
Leather workers:								
Boot-makers	Per week of 50 hours	0	45	0	to	0	60	0
Curriers	Per week of 54 hours					0	45	0
Harness-makers	do					0	45	0
Portmanteau makers	do	0	36	0	to	0	40	0
Saddlers	do	0	40	0	to	0	50	0
Tanners	do					0	45	0
Warehousemen	Per week of 50 hours					0	57	6
Machinists (female)	do	0	20	0	to	0	30	0
Stationery, printing, etc.:								
Book-binders	Per day of 8 hours	0	8	0	to	0	11	0
Compositors	do					*0	10	0

*** Piecework, 1s. 1d. and 1s. 2d. per 1,000; 1s. 8d. per hour overtime.**

Table showing rates of wages of various trades, etc., during 1889—Continued.

Employment.	Hours of labor.	Wages.						
		£	s.	d.		£	s.	d.
Stationery, printing, etc.—Continued.								
Engravers—								
Metal	Per week of 54 hours	0	60	0	to	0	80	0
Wood	do	0	50	0	to	0	60	0
Lithographers	Per day of 8 hours	0	10	0	to	0	12	0
Pressmen	do	0	9	0	to	0	10	0
Stationers	do	0	10	0	to	0	12	0
Stereotypers	do	0	9	0	to	0	10	0
Warehousemen	Per week of 48 hours	0	60	0	to	0	80	0
Woolen cloth manufactures:								
Foremen	Per week of 60 hours					0	60	0
Workmen	do					0	40	0
Juniors	do					0	30	0
Mill-wrights	do					0	60	0
Weavers (female)	do					0	25	0
Girls	do					0	9	0
Boys	do					0	9	0
Clothiers:								
Males—								
Cutters	Per week of 56 hours	5	0	0	to	8	0	0
Drapers' assistants	Per week of 60 hours	2	0	0	to	5	0	0
Hatters	Per day of 9 hours	0	8	0	to	0	10	0
Oil-skin makers	do					0	8	0
Pressers	do					0	10	0
Shirt cutters	Per day of 8 hours	0	12	0	to	0	20	0
Tailors	Per day of 9 hours	0	8	0	to	0	10	0
Females—								
Dress-makers	Per week of 50 hours					0	60	0
Dress-makers' assistants	do	0	15	0	to	0	20	0
Milliners	do	0	60	0	to	0	80	0
Milliners' assistants	do	0	10	0	to	0	20	0
Tailoresses	Per day (week of 50 hours)	0	3	6	to	0	6	0
Improvers	do	0	1	0	to	0	2	0
Food and drink supply:								
Bakers	Per week of 50 hours	0	55	0	to	0	80	0
Bakers' firemen	do					0	40	0
Butchers—								
Slaughtermen	Per week of 60 hours	0	50	0	to	0	70	0
Shopmen	Per week of 70 hours, with board	0	30	0	to	0	40	0
Boys	Per week of 70 hours, with board and residence.	0	15	0	to	0	20	0
Confectioners	Per week of 48 hours					0	50	0
Fishermen	Per week (no fixed time specified)	0	20	0	to	0	60	0
Grocers' assistants	Per week of 66 hours	0	30	0	to	0	40	0
Millers	Per week of 60 hours					0	80	0
Mill hands	do	0	40	0	to	0	50	6
Market gardeners—								
European	Per week, with board	0	20	0	to	0	40	0
Chinese	do	0	16	0	to	0	20	0
Maritime pursuits:								
Boatswains	Per month, 48 hours per week					8	0	0
Coal trimmers	do					7	0	0
Deck hands	do					7	0	0
Engineers—								
First	Per month (no fixed time specified)					20	0	0
Second	do					16	0	0
Firemen	Per month, 48 hours per week					9	0	0
Lumpers	Per hour (no fixed time specified)					0	1	3
Constant hands	Per week of 60 hours					0	50	0
Masters and engineers of harbor boats	Per week of 90 hours					0	55	0

Table showing rates of wages of various trades, etc., during 1889—Continued.

Employment.	Hours of labor.	Wages.
		£ s. d. £ s. d.
Maritime pursuits—Continued.		
Sail-makers	Per day, 54 hours per week	0 10 0
Sailors	Per month, 48 hours per week	7 0 0
Sea cooks	do.	4 0 0 to 12 0 0
Wharf laborers	Per hour, 48 hours per week	0 1 0 to 1 6 0
Youths on steamers	Per week of 48 hours	0 15 0 to 0 22 0
Coaching:		
Omnibus men	Per week of 70 hours	0 36 0 to 0 50 0
Omnibus conductors	do.	0 15 0 to 0 [illegible] 0
Dray and trolly men	For one horse per week of 70 hours	0 40 0
Do	For every additional horse, 70 hours	0 2 6
Drivers (licensed)	Per week of 70 hours, with board and lodging.	0 20 0
Do	Per week of 70 hours, if without board and lodging.	0 36 0
Farriers	Per day, 48 hours per week	0 8 0 to 0 9 0
Grooms	Per week of 72 hours	0 36 0
Attendance and service:		
Males—		
Bar men	Per week, with board and lodging (no fixed time specified).	0 20 0 to 0 40 0
Butlers	do.	0 20 0 to 0 30 0
Coachmen	do.	0 20 0
Cooks	do.	0 20 0 to 0 60 0
Dairymen	do.	0 15 0 to 0 20 0
Gardeners	do.	0 20 0 to 0 30 0
Gardeners' laborers	do.	0 15 0 to 0 20 0
Scullery	do.	0 15 0 to 0 20 0
Waiters	do.	0 20 0 to 0 25 0
Female—		
Bar-maids	do.	0 20 0 to 0 30 0
Cooks	do.	0 25 0
General servants	do.	0 10 0 to 0 18 0
House-maids	do.	0 12 0 to 0 16 0
Laundresses	do.	0 16 0 to 0 20 0
Nurse-maids	do.	0 7 0 to 0 10 0
Waitresses	do.	0 14 0 to 0 20 0
Agricultural and pastoral pursuits:		
Agricultural laborers	Per annum (no fixed time specified)	30 0 0 to 50 0 0
Boundary riders	do.	40 0 0 to 50 0 0
Bush carpenters	do.	40 0 0 to 50 0 0
Cooks (station)	do.	30 0 0 to 50 0 0
Farm hands	do.	30 0 0 to 50 0 0
Fell-mongers	Per day, 55 hours per week	0 7 6
Fencers	Per annum, with board and lodging (no fixed time specified).	40 0 0 to 50 0 0
Married couples—		
Wife cook	do.	65 0 0 to 80 0 0
Husband cook	do.	75 0 0 to 100 0 0
Shearers	Per 100 sheep (no fixed time specified)	0 20 0
Stockmen	Per annum, with keep (no fixed time specified).	40 0 0 to 60 0 0
Wine-growers	do.	70 0 0 to 100 0 0
Wool scourers	Per day	*0 7 6
Wool sorters	Per 1,000 fleeces (no fixed time specified).	0 20 0
Miscellaneous trades:		
Basket-makers	Per week of 48 hours	0 40 0 to 0 50 0
Blind	do.	0 15 0 to 0 30 0
Bellows-makers	Per week of 54 hours	0 50 0

* Piecework, 1¼*d.* to 1½*d.* per pound, no fixed time specified.

Table showing rates of wages of various trades, etc., during 1889—**Continued.**

Employment.	Hours of labor.	Wages.						
		£	s.	d.		£	s.	d.
Miscellaneous trades—Continued.								
Coach builders	Per day of 8 hours	0	8	0	to	0	10	[illegible]
Coach painters	do	0	8	0	to	0	10	0
Coach trimmers	do	0	8	0	to	0	10	0
Coopers (generally piecework)	Per week of 44 hours (average earning)					0	55	0
French polishers	Per day of 8 hours	0	8	0	to	0	10	0
Gas stokers	Per day, 56 hours per week					0	9	6
Hair-dressers	Per week of 54 hours	0	40	0	to	0	60	0
Jewelers	Per day of 8 hours	0	8	0	to	0	10	0
Laborers	do	0	6	0	to	0	8	0
Perambulator makers	do	0	7	0	to	0	9	[illegible]
Photographers	Per week of 48 hours					0	80	[illegible]
Photographers' assistants	do	0	30	0	to	0	40	0
Potters	Per day of 8 hours	0	8	0	to	0	10	0
Quarrymen	do					0	10	0
Soap-makers	Per week of 56 hours					0	45	0
Sweeps	do					0	36	0
Tobacco operatives	Per week of 54 hours	0	40	0	to	0	80	0
Upholsterers	Per day, 54 hours per week	0	8	0	to	0	9	0
Wheel-wrights	Per day, 48 hours per week	0	[illegible]	0	to	0	10	0
City municipal employés:								
Carpenters	Per day, 44 hours per week	0	8	0	to	0	10	0
Carters	Per day, 44 hours per week (finding horse).					0	11	6
Engineers	Per day, 44 hours per week	0	11	0	to	0	12	0
Engine drivers	do					0	8	0
Gangers	do	0	9	0	to	0	11	0
Laborers	do	0	7	0	to	0	8	0
Overseers	do	0	8	0	to	0	9	0
Regulators of street traffic	do	0	8	0	to	0	9	0
State railway employés:								
Blacksmiths	Per day of 8 hours	0	9	0	to	0	12	2
Blacksmiths' strikers	do	0	7	6	to	0	8	6
Boiler-makers	do	0	9	0	to	0	12	2
Brakesmen	Per week of 55 hours					0	42	0
Brass finishers	Per day of 8 hours	0	9	0	to	0	11	0
Carpenters	do	0	8	8	to	0	11	0
Carriage builders	do	0	10	0	to	0	11	4
Carriage trimmers	do	0	10	0	to	0	10	8
Cleaners (engine)	Per day, 55 hours per week	0	5	0	to	0	7	0
Engine-drivers—								
Locomotive	do	0	11	0	to	0	15	0
Stationary	do	0	7	0	to	0	10	0
Fettlers	Per day of 8 hours					0	7	6
Firemen	do	0	8	0	to	0	10	0
Fitters	do	0	9	0	to	0	13	0
Foremen	Per annum, 48 hours per week	240	0	0	to	450	0	0
Gangers	Per day of 8 hours					0	9	0
Guards	Per day, 55 hours per week	0	9	0	to	0	11	0
Laborers	Per day of 8 hours	0	7	0	to	0	7	6
Machinists	do	0	7	6	to	0	9	8
Molders	do	0	8	6	to	0	11	2
Painters	do	0	8	0	to	0	11	0
Pattern-makers	do	0	9	0	to	0	12	0
Porters	Per day, 55 hours per week	0	7	0	to	0	10	0
Shunters	do	0	8	0	to	0	11	0
Signal men	do	0	7	0	to	0	10	0
Station-masters	Per annum (no fixed time specified)	150	0	0	to	400	0	0
Wagon builders	Per day of 8 hours	0	9	6	to	0	10	4
Watchmen	Per week of 55 hours	0	42	0	to	0	45	0

Table showing rates of wages of various trades, etc., during 1889—Continued.

Employment.	Hours of labor.	Wages.					
Mining:							
Coal miners*—		£	s.	d.	£	s.	d.
Northern, hewing	Per day, 44 hours per week	0	10	6 to	0	12	6
Southern, hewing	do	0	8	0 to	0	9	0
Boys employed in mines	do	0	3	0 to	0	5	0
Gold miners	Per week of 44 hours				0	50	0

*** Coal miners working under-ground are mostly paid piecework, at the rate of 2*s*. 6*d*. to 3*s*. per ton in the southern mines and 4*s*. 2*d*. per ton in the northern.**

Table showing the rate of wages at the Broken Hill silver mine.

Employment.	Hours of labor.	Wages.					
Mechanics and surface hands:		£	s.	d.	£	s.	d.
Engineers	Per shift of 8 hours	0	10	0 to	0	12	0
Masons and brick-layers	do	0	10	0 to	0	12	0
Carpenters	do	0	10	0 to	0	12	0
Blacksmiths	do	0	10	0 to	0	12	0
Blacksmiths' strikers	do				0	8	4
Engine drivers—							
Stationary	do				0	10	0
Hoisting	do	0	10	0 to	0	11	0
Firemen	do				0	9	0
Firemen's assistants	do				0	8	4
Fitters	do	0	10	0 to	0	12	0
Machine men (shop)	do	0	9	0 to	0	10	0
Boiler-makers	do				0	12	0
Riveters	do	0	9	0 to	0	10	0
Tinsmiths	do				0	10	0
Saw-mill men	do	0	8	4 to	0	10	0
Horse drivers	Per shift of 8 hours, exclusive of time occupied in cleaning and harnessing.				0	8	4
Laborers (all)	Per shift of 8 hours				0	8	4
Boys	do	0	3	0 to	0	7	6
Tappers	do				0	10	0
Flag wheelers	do				0	9	0
Feeders	do				0	10	0
Charge wheelers	do				0	9	0
Under-ground hands:							
Miners	do*				0	10	0
In wet shafts	do	0	10	0 to	0	10	0
Brace and plat men	do				0	9	0
Truckers	do				0	8	4
Ore-dressing hands:							
Shift washers	do				0	10	0
Head runners	do				0	9	0
Head feeders	do				0	9	0
Engine-drivers	do				0	10	0
Tin	Per week of 44 hours				0	50	0

NOTE.—All time worked over 8 hours per day paid for at the rate of time and a quarter, Sundays not excepted.

***6 hours on Sunday to constitute a shift work.**

Table showing average retail price of food, etc., in New South Wales.

Year.	Wheat, per bushel.	Bread, per loaf of 2 pounds.	Rice, per pound.	Oatmeal, per pound.	Tea, per pound.	Sugar, per pound.	Coffee, per pound.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1836	8 6	…	0 9	…	2 6	0 3½	…
1837	8 9	…	…	…	1 9	0 4	1 6
1838	8 0	…	…	…	…	…	…
1839	17 4	…	…	…	2 6	0 3½	1 6
1840	6 6	…	…	…	2 6	0 3½	1 4
1841	5 6	…	…	…	2 6	0 3½	1 4
1842	6 6	0 4½	0 2	…	2 6	0 3½	1 4
1843	4 3	0 3½	0 1½	…	2 6	0 4	0 10
1844	4 0	0 2¾	0 1¾	…	1 5	0 2½	0 8½
1845	4 3	0 3	0 3	…	1 6	0 3	0 7½
1846	5 0	0 4	0 1½	…	2 3	0 4	0 10
1847	5 0	0 4	0 3¾	0 6	2 4	0 4	1 1
1848	5 0	0 4	0 3½	0 6	2 0	0 3¼	1 1
1849	4 0	0 3½	0 3¾	0 5¾	1 9	0 3¾	1 0
1850	4 0	0 3½	0 4	0 6	1 10	0 3½	1 2
1851	8 6	0 6¼	0 4	0 6	1 4	0 3½	1 3
1852	6 0	0 6¼	0 4	0 6	1 4	0 3½	1 3
1853	6 9	0 6¼	0 4¼	0 6	1 4	0 3½	1 3
1854	11 6	0 9	0 5	0 7½	2 6	0 5	1 6
1855	16 5	0 11	0 6	0 9	2 5	0 7	1 8
1856	11 3	0 8¾	0 5¼	0 7	2 2¼	0 5½	1 7¼
1857	7 4	0 6	0 5	0 7	2 6	0 7½	1 8
1858	10 3	0 8	0 6	0 7	2 6	0 7	1 8
1859	8 6	0 8½	0 4¼	0 7	2 6	0 5	1 8
1860	8 0	0 6½	0 5	0 6	2 3	0 5½	1 6
1861	6 6	0 6½	0 4	0 6	2 4	0 5½	1 6
1862	7 0	0 4½	0 3	0 5	2 0	0 4½	1 5
1863	6 6	0 4	0 3	0 4	2 0	0 4½	1 4
1864	7 0	0 5½	0 3	0 4	2 0	0 4½	1 4
1865	9 6	0 7½	0 3	0 4	2 0	0 4½	1 4
1866	8 4	0 6½	0 4	0 4	2 6	0 4	1 4
1867	4 3	0 3½	0 3½	0 4	2 0	0 4	1 4
1868	5 9	0 4	0 4	0 4	2 0	0 4	1 4
1869	4 9	0 3½	0 3	0 4	2 0	0 4	1 0
1870	5 0	0 3½	0 3	0 4	2 0	0 4	1 2
1871	5 7	0 3½	0 2½	0 2½	2 3	0 4	1 0
1872	5 0	0 3½	0 3	0 3	1 9	0 4	1 1
1873	5 1	0 4	0 2½	0 2¾	1 9	0 4	1 2
1874	6 9	0 3½	0 3	0 3¼	1 9	0 4	1 4
1875	4 7	0 3	0 3	0 3	1 9	0 4½	1 2
1876	5 1	0 3½	0 3	0 3	1 9	0 4	1 2
1877	6 1	0 4	0 3	0 3¼	2 0	0 4	1 3
1878	6 1	0 4	0 3	0 3	1 9	0 4	1 3
1879	5 0	0 3½	0 2½	0 2¼	1 6	0 3½	1 0
1880	4 8	0 3	0 3	0 3	2 0	0 4	1 5
1881	4 1	0 3½	0 3	0 3	2 0	0 3½	1 5
1882	5 5	0 4	0 3½	0 4	2 0	0 4	1 5
1883	5 2	0 3½	0 3	0 4	2 0	0 4	1 9
1884	4 3	0 3	0 2½	0 3	1 6	0 3½	1 4
1885	4 10	0 3	0 3	0 3	1 9	0 3	1 5
1886	4 3	0 3½	0 2¼	0 2¼	1 9	0 3½	1 6
1887	3 10	0 3½	0 3	0 2¾	1 9	0 3½	1 6
1888	4 6	0 3	0 3	0 2½	1 6	0 3½	1 6
1889	4 8	0 3½	0 3	0 3¼	1 6	0 3¼	1 6

Table showing average retail price of food, etc., in New South Wales—Continued.

Year.	Beef, per pound.	Butter, per pound.		Cheese (colonial), per pound.	Salt, per pound.	Potatoes, per cwt.
		Fresh.	Salt.			
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1836	0 3	2 3	1 9	1 0	....	10 6
1837	0 4½	2 6	1 9	1 0	0 1	....
1838	....	....	....	....	....	....
1839	0 3	....	....	....	....	....
1840	0 4½	....	....	....	....	....
1841	0 4½	....	....	....	....	....
1842	0 3½	2 6	2 0	1 1½	0 1	16 0
1843	0 2½	1 9	1 0	0 9	0 0½	7 6
1844	0 2	1 5	0 9	0 4½	0 1¼	4 6
1845	0 2½	1 6	1 0	0 6	0 1½	4 6
1846	0 2¼	1 8	1 3	0 6	0 1½	6 2
1847	0 2	1 2	1 0	0 7	0 1½	5 6
1848	0 2	1 1	0 11	0 8	0 1½	6 0
1849	0 1¾	1 2	1 0	0 6¼	0 1½	6 2½
1850	0 1¾	1 3	1 0	0 7	0 1¾	7 0
1851	0 2¾	1 3	1 0	0 7	0 1½	6 0
1852	0 3	1 3	1 0	0 7	0 1½	6 0
1853	0 3½	1 5¼	1 1½	0 7¼	0 1½	13 0
1854	0 4½	2 3	2 0	0 9	0 2½	18 6
1855	0 6	2 4	2 0	1 3	0 4	21 4
1856	0 3½	1 11	1 9	1 2	0 3	10 0
1857	0 3½	2 0	1 9	1 0	0 2¾	14 6
1858	0 4	2 0	1 9	1 0	0 4½	15 6
1859	0 4	1 10	1 6	1 0	0 2½	8 0
1860	0 4	1 6	1 4	0 10	0 2½	7 6
1861	0 3	1 8	1 4	0 9	0 2½	7 3
1862	0 4½	2 3	1 0	0 9	0 1½	8 0
1863	0 4¼	1 6	1 0	0 10	0 1½	7 0
1864	0 4	1 6	1 0	0 5	0 1½	5 0
1865	0 3	1 9	1 6	0 9	0 1½	8 0
1866	0 3	1 3	1 0	1 0	0 1½	6 0
1867	0 2½	1 6	1 3	0 7½	0 1	7 0
1868	0 3½	1 3	0 10	0 9	0 1½	9 0
1869	0 2	1 6	1 3	0 6	0 1	4 0
1870	0 3½	1 3	1 0	0 6	0 1	5 0
1871	0 2½	1 3	1 0	0 7½	0 0½	4 0
1872	0 2½	1 0	0 10½	0 9	0 0¾	5 0
1873	0 2½	1 3	1 0	0 5	0 0½	3 6
1874	0 4	1 7	1 4	0 6	0 0½	4 9
1875	0 3½	1 3	1 0	0 9	0 1½	5 6
1876	0 5½	1 3	1 3	0 7	0 1	4 9
1877	0 4½	1 6	1 4	0 6	0 1	4 9
1878	0 4	1 3	1 0	0 6	0 0½	5 10
1879	0 4	0 10½	0 8	0 6	0 0½	6 0
1880	0 3½	0 10	0 8	0 7	0 0¾	4 3
1881	0 3½	0 10½	0 7	0 6½	0 0¾	4 0
1882	0 4½	1 3	1 3	0 8	0 1	5 6
1883	0 4	1 6	1 3	1 0	0 1	5 0
1884	0 4½	1 3	1 0	0 9	0 1	5 0
1885	0 4½	1 6	1 3	1 3	0 0¾	6 0
1886	0 4½	2 0	1 8	1 1	0 1	6 9
1887	0 4	1 3	0 11½	0 10½	0 1	5 6
1888	0 4½	1 11	1 8	0 8½	0 1	7 0

Table showing average retail price of food, etc., in New South Wales—Continued.

Year.	Beer (colonial), per gallon.		Candles, per pound.		Soap, per pound.		Starch, per pound.		Tobacco, per pound.			
									Colonial		Imperial.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1836					0	4½					3	3
1837	1	0									4	0
1838												
1839					0	4½					3	3
1840					0	4½					3	3
1841					0	4½					3	3
1842	1	9			0	4½					3	6
1843	2	3							1	4	3	6
1844	1	3	0	3½	0	3¾			1	6	3	6
1845	1	1	0	4	0	3½			1	6	4	6
1846	2	0	0	4¼	0	5			1	9	4	6
1847	3	4	0	6	0	5	1	0	1	9	4	4
1848	3	3	0	6	0	5	1	0	1	9	4	4
1849	2	8	0	6	0	5¼	1	1	2	0	4	7
1850	2	9	0	6	0	5½	1	0	2	7	4	10
1851	2	6	0	5¾	0	5¼	1	0	3	8	7	9
1852	2	6	0	6	0	6	1	0	4	0	8	0
1853	2	4½	0	6	0	6	1	0	4	0	7	6
1854	3	6	0	8½	0	8	1	6	4	0	5	6
1855	4	7	0	10	0	8	1	6	3	0	5	0
1856	3	6	0	9¼	0	7¼	1	1¼	2	6½	5	3
1857	4	0	0	9	0	7	1	0	2	7	5	0
1858	4	3	0	9½	0	7	1	5	2	6	5	0
1859	4	0	0	10½	0	6½	1	0	2	6	5	0
1860	3	6	0	9½	0	7	1	0	2	3	5	0
1861	3	6	0	7½	0	6	0	10½	2	0	5	6
1862	2	0	0	7	0	4½	0	8	4	6	6	0
1863	1	6	0	7	0	4	0	7	3	0	7	6
1864	2	0	0	7	0	4	0	8	1	6	5	6
1865	2	0	0	7	0	4	0	8	2	6	5	6
1866	2	0	0	7	0	4½	0	7	2	6	5	0
1867	1	6	0	6	0	4	0	7	1	9	4	6
1868	2	0	0	6	0	4	0	7	1	9	5	0
1869	1	4	0	5	0	4	0	8	1	0	3	6
1870	1	4	0	5	0	4	0	7	1	3	3	6
1871	2	3	0	5	0	3	0	4½	1	0	3	0
1872	1	4	0	5	0	3	0	5	1	4	3	6
1873	2	3	0	5	0	3	0	5	2	0	3	6
1874	2	0	0	4½	0	2½	0	6	1	9	3	3
1875	3	0	0	4½	0	3	0	5	2	0	3	9
1876	2	0	0	5	0	2¾	0	5	1	9	3	0
1877	2	0	0	5	0	2¾	0	5	2	0	3	6
1878	2	0	0	5	0	2	0	5	1	6	3	0
1879	2	0	0	4½	0	2	0	5	1	6	3	9
1880	2	0	0	5½	0	3	0	5½	2	0	4	0
1881	2	0	0	5½	0	3	0	5½	2	0	4	0
1882	2	0	0	6	0	2½	0	6	3	0	5	0
1883	2	0	0	6	0	3	0	7	3	0	6	0
1884	2	0	0	5	0	3	0	6	3	0	5	0
1885	2	0	0	5½	0	3	0	6½	3	0	6	0
1886	2	0	0	9½	0	4	0	6½	4	0	5	0
1887	2	0	0	8½	0	3½	0	6½	4	0	5	0
1888	2	0	0	8	0	3¼	0	6	4	0	5	0

Table showing wholesale prices for food, etc., in New South Wales for 1889.

Articles.	January.	February.	March.	April.	May.	June.	July.
Milled produce:							
Flour—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New Zealand.....per ton..	....	....	11 12 6	10 3 9	11 10 0	10 17 0	10 7 6
South Australian or Victorian*..........per ton..	....	....	....	....	....	....	12 2 3
New South Wales....do...	....	....	....	....	....	....	11 13 4
Australian brands*..do...	12 6 4¾	11 11 6	12 14 7	12 10 0	12 10 0	12 7 6	....
Bran.................per bushel..	0 0 11¼	0 0 11	0 1 1½	0 1 1¼	0 1 1	0 1 1	0 0 11¾
Pollard.......................do...	0 1 0	0 1 1	0 1 3½	0 1 3	0 1 2¼	0 1 2¾	0 1 0
Root crops:							
Potatoes.................per ton..	14 12 7½	8 13 6½	5 8 4	4 19 3	4 12 2½	5 6 8	5 10 0
Onions........................do...	14 0 0	12 15 0	12 7 6	15 11 9	15 3 9	22 7 6	27 0 0
Carrots...per dozen bundles..	0 0 15½	0 0 12¾	0 0 13¾	0 0 13½	0 0 11½	0 0 10½	0 0 10½
Dairy produce:							
Butter (fresh).....per pound..	0 0 11¾	0 0 10¾	0 0 16	0 0 18½	0 0 16¾	0 0 13½	0 0 15½
Cheese........................do...	0 0 8	0 0 6½	0 0 6	0 0 6¾	0 0 6¾	0 0 6½	0 0 6½
Eggs..................per dozen..	0 0 14½	0 0 18	0 0 19	0 0 22½	0 0 24½	0 0 18½	0 0 12½
Bacon................per pound..	0 0 8	0 0 8½	0 0 9	0 0 7¾	0 0 8½	0 0 8½	0 0 6
Ham...........................do...	0 0 10½	0 0 11	0 0 11	0 0 10	0 0 10½	0 0 11	0 0 9
Apiary:							
Honey.........................do...	0 0 4	0 0 4	0 0 4	0 0 4	0 0 4	0 0 4	0 0 4
Bees-wax....................do...	0 0 10½	0 0 10½	0 0 10½	0 0 10½	0 0 10	0 0 10	0 0 10
Hay:							
Oat or wheat.........per ton..	6 4 0	6 1 0	6 3 9	6 17 10	7 12 9	7 8 4	6 5 1
Lucern........................do...	3 13 5	3 17 0	4 8 6	4 9 7	5 6 2	5 7 0	5 7 6
Chaff:							
Oat.............................do...	6 12 10	6 10 8	6 10 9	7 12 10	7 15 0	7 12 7	6 7 5
Other..........................do...	4 8 0	4 13 0	3 8 6	4 11 0	5 0 9	5 1 6	4 17 4
Straw (clean)...................do...	4 5 0	4 6 0	4 0 6	4 16 9	4 10 0	4 15 11	4 2 0
Cereals:							
Feed grains—							
Maize..........per bushel..	0 3 5½	0 3 6	0 3 2	0 3 5	0 3 4½	0 3 3	0 3 2½
Oats.......................do...	0 3 10	0 3 3¾	0 3 2½	0 3 5½	0 3 5¾	0 3 1½	0 3 2
Cape barley............do...	0 4 0	0 3 9	0 3 2½	0 3 5½	0 3 5½	0 3 2½	0 3 1½
Wheat—							
New Zealand ....do...	0 4 9	0 4 5½	0 4 6¼	0 4 6	0 4 7½	0 4 4½	0 4 2
South Australian or Victorian........per bushel..	5 0 0	0 4 10½	0 5 5	0 5 5½	0 5 5½	0 5 2½	0 5 2½
Californian.............do...	0 4 8	....	0 4 8	0 4 9	0 4 11	0 4 4½	0 4 2

Articles.	August.	September.	October.	November.	December.	Average.
Milled produce:						
Flour—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New Zealand....................per ton..	10 4 6	10 4 10	9 16 3	10 0 0	9 18 9	10 9 6
South Australian or Victorian*..do...	12 2 1	12 3 9	12 2 0	12 2 4	11 5 10	†11 9 8½
New South Wales...................do...	11 10 0	11 10 0	11 17 6	11 9 4	....	11 12 0½
Australian brands*..................do...	....	....	....	....	....	12 6 8
Bran.................................per bushel..	0 0 10	0 0 9	0 0 8½	0 0 8½	0 0 7	0 0 10¾
Pollard..do...	0 0 10	0 0 8½	0 0 8	0 0 8½	0 0 7	0 0 11¼
Root crops:						
Potatoes................................per ton..	5 16 9	5 16 9	6 17 11	5 18 4	3 13 4	6 8 9½
Onions...do...	31 2 6	32 0 0	33 10 0	16 6 8	5 16 3	19 13 5
Carrots..................per dozen bundles..	0 0 13½	0 0 14	0 0 15½	0 0 11	0 0 10	0 0 12¾

* Assuming that "Australian brands," "South Australian," and "Victorian" are the same, the average price for this class would be £12 3*s.* 9*d.* for the twelve months. These prices are the mean of both roller and stone ground flours. The difference in price ranges from £2 in very superior to 10*s.* in New Zealand sorts, but is commonly about £1.

† Or £12 3*s.* 9*d.*, taking Australian brands, for the first six months.

Table showing wholesale prices for food, etc., in New South Wales for 1889—Continued.

Articles.	August.	September.	October.	November.	December.	Average.
Dairy produce—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Butter (fresh)....................per pound..	0 0 11	0 0 10	0 0 9¾	0 0 8½	0 0 8¾	0 0 12½
Cheese..do...	0 0 6½	0 0 6½	0 0 6	0 0 5½	0 0 5½	0 0 6½
Eggs................................per dozen..	0 0 10½	0 0 10½	0 0 9¾	0 0 11¾	0 0 15½	0 0 15½
Bacon..............................per pound..	0 0 6	0 0 6	0 0 6½	0 0 8½	0 0 10¾	0 0 7¾
Ham...do...	0 0 9	0 0 9	0 0 9	0 0 9½	0 0 10¾	0 0 10
Apiary:						
Honey...do...	0 0 4	0 0 4	0 0 3¾	0 0 4	0 0 4	0 0 4
Bees-wax.....................................do...	0 0 10	0 0 10	0 0 10	0 0 10	0 0 10	0 0 10½
Hay:						
Oat or wheat.........................per ton..	5 6 0	4 17 2	4 7 0	4 5 6	3 12 6	5 15 0
Lucerne.......................................do...	4 7 0	3 14 9	2 18 7	3 0 2½	2 11 6	4 1 9
Chaff:						
Oat...do...	6 5 0	6 1 1	5 16 0	5 6 8	4 12 3	6 8 7
Other..do...	4 15 0	4 0 0	....	....	....	4 10 6
Straw (clean)..................................do...	4 0 0	3 3 10	3 1 6	2 3 2	3 1 8	3 17 2
Cereals:						
Feed grains—						
Maize..........................per bushel..	0 3 1½	0 3 1½	0 3 3½	0 3 0½	0 3 5½	0 3 3¾
Oats.......................................do...	0 3 0	0 3 0	0 3 0	0 2 6½	0 2 4½	0 3 1½
Cape barley.............................do...	0 3 1	0 3 2	0 3 2	0 3 0	0 3 0	0 3 3½
Wheat—						
New South Wales.................do...	....	....	....	....	0 3 6¾	0 3 6¾
New Zealand.........................do...	0 4 1½	0 4 0½	0 4 7½	0 4 8½	0 3 9½	0 4 4
South Australian or Victorian...do...	0 5 2¾	0 5 3½	0 4 10½	0 4 11	0 4 1½	0 5 1
Californian............................do...	0 4 6¾	0 4 5½	0 4 6½	0 4 8	....	0 4 6¾

In some of the trades the rates at present may be slightly less, occasioned by the defeat of the great labor strike in Australasia during the months of September, October, and November.

Mr. Coghlan remarks, in reference to the above-quoted rates, that "the laboring classes are far in advance of their fellow-workmen in older countries in other respects besides the question of better wages." He directs attention to the fact that "in nearly all branches of labor the daily toil is restricted to eight hours." Although there is no statutory recognition of this time as the limit of man's labor, it is tacitly acknowledged even by the governments of the various colonies. It is well enough, however, to remark that the climate is such, and especially in the northern parts of the colonies, that a day's work of eight hours is a heavier tax on the strength and endurance of the laborer than one of ten or twelve hours in the more thickly populated districts of the United States. It is the experience of American workmen in Sydney that the cost of living, in spite of its being a free port, is fully 30 per cent. higher than in the United States. House rent is 20 per cent. more than it is in nearly all the cities of about the same population in America. Wheaten bread is one-half dearer than in San Francisco. Fruit is in the same proportion; indeed, the cost of fruit is so great, even when in season, that there is a brisk demand for American tinned fruits. Tins which retail here for 30 cents each can be purchased in the United States out of season for 12 cents each. Tea and coffee are 20 per cent. cheaper in nearly all the larger cities in America than in Sydney. Meat appears to be the only article of food supply which is lower in price than in America; but even the retail price of that is out of all proportion to the actual cost of production. Mr. Coghlan gives the retail price of beef at 9 cents per pound. Pork and sausages seem to be dearer here than anywhere else. It is seldom that a fair article of sausages can be obtained for less than 20 cents per pound, but they are nothing like as good as the imported ones in tins. A curious fact in connection with the subject of food supply in Australasia is the enormous quantity of meat consumed by each inhabitant. The consumption is given at 1.9 sheep and 0.26 cattle, equal to 264 pounds. Adding to this 12 pounds of pork, etc., the average yearly consumption of each inhabitant of Australasia is 276 pounds, against only 105 pounds in Great Britain and 120 pounds in the United States.

Workmen can travel a distance of from 10 to 15 miles in New York for 5 cents, while here the cost is six or seven times that amount. The ordinary train fare for short distances, however, is about the same as in America. Freight on the railways is 100 per cent. higher, and yet the railways are owned and controlled by the Government. For instance, apples can be brought all the way from St. Louis to New Orleans, a distance of over 600 miles, for 24 cents per barrel, while it would be considerably more than that sum for half the similar distance in Australia. Freight on bacon packed in cars in the United States per 1,000 miles is only 12½ cents per 100 pounds, 100 pounds of grain only the same rate, and almost every other article in like proportion. Here it would cost 100 pounds of bacon $1.82 freight and 100 pounds of grain $1.82 freight.

These heavy rates for transportation necessarily bring the cost of provisions up to extravagantly high figures. Mr. Coghlan, however, says it is quite possible that produce of all kinds may have been purchased at cheaper rates than those given in his tables, and that he is under the fair average prices, having a due regard for the class of goods consumed. He says it is important to take into consideration the quality of the goods consumed. Thus the ordinary sugar now used and obtainable at 7 cents per pound is a good white sugar, whereas some years ago only the commonest quality of yellow sugar could be purchased at that price. The candles now in general use are made of stearine, while formerly only the common tallow candle was in general use, and so with many other articles of general consumption. The retail prices are those actually paid from day to day, irrespective of the common wholesale rates in the Sydney markets. The wholesale prices are those quoted without regard to actual quantities purchased.

In regard to the question of wages, which has always been a disturbing element here, Mr. Coghlan and other Australian statists are silent. There is an opinion widely prevalent that the ruling rates of wages are far too high; but, considering the cost of living and other incidental expenses for the workman, I do not see how they could reasonably be less. Of course, there are articles of luxury, such as kid gloves, silks, and the finer articles of wearing apparel, which are cheaper; but in ordinary dress goods, and especially in manufactured clothing, they are better and cheaper in America. They not only fit the person better there, but are stronger and better made in every way. It is said constantly by the press here that wages in these colonies are higher than anywhere else in the world, and that their payment absorbs a disproportionate share of the earnings of the community; that they have risen considerably in many branches of labor, while the earnings of capital have steadily declined. It is believed that the rates of wages are a check on enterprise by making it too costly, more so than the anticipated profits will justify, and consequently operate against the interests of the general community, and also against the interests of the working classes themselves, whose employment is very much curtailed by the limitation of enterprise; and it is said that if wages were lower capital would flow more freely. Thus the wage earners would be more regularly employed, and society, consequently, would be better off.

That these results could be brought about by lowering the rates of wages is certainly a question of great moment to the community. There is in every city in Australia a greater or less number of the unemployed. How they live is a mystery to me. In most cases the climate is mild enough to allow of their sleeping out-of-doors; but the cost of food is very high, and food must be procured in some way. During the day the unemployed not unfrequently parade the streets, carrying banners with inscriptions demanding bread or employment. In some instances they form themselves in delegations and seek interviews with the premier of the colony, the mayor of the city, or other public functionaries and set forth their claims. Sometimes their importunities meet with success, and on several occasions the governments have opened bureaus for their relief and distributed food and other necessaries among them. The policy of so doing has been seriously questioned, both by the press and people, and it has been finally abandoned as being opposed to the best interests of the community.

The Government itself is an extensive employer of labor. It has the construction and conduct of railways, telegraphs, and other public works, and in New South Wales gives employment to about 25,000 persons, 11,091 of whom were in 1889 employed on the railways, whose united pay amounted to $7,217,020. Strange as it may appear, the number of men employed by the Government is considerably more than one-half of all those in factories and workshops in this colony put together. The latter had increased in the last eleven years from 24,741 to 44,989. Of this number of hands, there were engaged 2,422 in working up the raw material, the product of pastoral pursuits, and 8,244 in the preparation of food and drink; then there were 5,518 engaged in clothing and textile factories; 6,982 in the building materials industry, such as brick making, asphalt, joinery, paint, and pottery works; 8,211 in metal works, implements, and machinery; 1,225 on ship-building, 1,424 in furniture making; 4,688 in paper, printing, binding, and engraving establishments; 2,475 in the manufacture of vehicles, saddlery, etc.; 1,414 in light and fuel works, and 2,386 in miscellaneous employments.

There is, perhaps, no other country in the world, with the exception of the other Australasian colonies, where the number of Government employés bears such a strikingly large proportion to those engaged in independent pursuits. The various works undertaken and carried out by the governments of these colonies have been constructed out of borrowed capital principally, and the result is that the public debt of New South Wales alone has reached the enormous sum of $226,904,844.

The subjoined table shows the public debt of New South Wales for each year from 1869 to 1889:

Year.	Amount.	Year.	Amount.
1869	$46,455,755	1880	$72,529,922
1870	47,113,219	1881	82,360,738
1871	51,655,457	1882	91,106,813
1872	52,427,924	1883	119,873,862
1873	52,764,613	1884	146,491,184
1874	51,177,919	1885	173,073,466
1875	55,821,855	1886	199,693,172
1876	57,227,700	1887	199,503,871
1877	57,056,885	1888	214,603,375
1878	56,880,231	1889	226,904,844
1879	72,692,950		

It is only just, however, to say that no part of this debt is due to war charges nor to the construction of works wholly of an unproductive character. The assets of the colony amount to considerably more than four or five times its liabilities, and for the most part comprise securities which could readily be converted into money, the total being given at $837,038,000.

In controlling and working the railways, telegraphs, sewage works, and water supply works, the Government is obliged to pay especial attention to the subject of labor. An active and energetic committee on public works has been appointed from among the members of both houses of the legislature, whose function it is to investigate and report to Parliament upon the proposals made from time to time for the construction of public works. The committee has done much good towards regulating public expenditures and in securing an adequate return for the disbursements obtained by loans. The London Economist and other English financial journals blame the various colonial governments for keeping up fictitious rates of wages by the employment of labor on public works, many of which, the London Economist says, are of doubtful utility and seem to have been established solely for the purpose of increasing the political powers of the ministers among the working classes. The Sydney Economist, in a recent article entitled "The English Criticism of Australian Wages," says that there is a certain amount of truth in the assumption that colonial governments are large employers of labor of various kinds and requiring diverse abilities in helping to maintain the rates of wages, and that political pressure can, to a certain extent, be brought to bear by the working classes in combination to prevent a reduction of wages. The same journal, however, refutes the often-reported statement that the rates of wages in Australasia are fictitious.

It says:

> It is just as absurd to say that the rates of interest in Australasia are fictitious because they happen to be nearly double those paid in England.

And further:

> That employers are not likely to continue the payment of wages, except upon terms profitable to themselves.

Strikes have been so frequent in these colonies that the New South Wales Government has appointed a royal commission for the purpose of investigating their cause and to report upon the best means to eradicate their evil effects. This course seemed to be necessary, as the frequent and prolonged strikes in the colonies have entailed a vast amount of injury, not only upon the employers and general community, but upon the working-men themselves.

"The commission, which is composed of some of the most prominent public men in the colony, with the Hon. Dr. Andrew Garran as chairman, is likely," says the Sydney Morning Herald, "to be hampered in its praiseworthy undertaking by the objection of many of the labor unions to allow any thing like an inquiry into their proceedings." The members of the royal commission may not be able to recommend any very effective remedy for the evil, but, if they succeed in unraveling the causes of the troubles between capital and labor, a remedy will discover itself in due course. Mr. Finch, the president of the labor defense committee, a committee that controlled and directed the late strike, has a seat on the royal commission, and he is very decided in the opinion that the proceedings of the commission should be in secret and that the press and general public should be excluded from any of their sittings. The Sydney Morning Herald says that there is always something suspicious in an attempt to throw a veil of secrecy around an investigation, and in this case the action of Mr. Finch is particularly open to question. The Herald says:

> It is sometimes thought by unreflecting people that it is merely a question of press interest when reporters are excluded from a meeting; but it is the people that are concerned, for in this the press is but the eye of the public, and the refusal of the presence of the reporter is the barring of the door against the people. There are, it is true, sometimes inquiries involving, for instance, state secrets or otherwise, from which it is expedient that the public and their representatives be debarred; but an inquiry such as this of the labor commission should have no secrets to conceal, and its findings should be public property. Granting that some excuse might be given for secrecy during a period of conflict, what possible secrets can there be now to cover, or why should any fears be entertained as to the disclosure of events connected with the recent struggle? Mr. Finch has raised the question of the presence of reporters, and, failing in his effort to enlist a feeling favorable to their exclusion, he has given notice to move, at the next meeting, that the press should not be admitted. What is the president of the labor defense committee ashamed of? Or what is it in the proceedings of the strike that in his opinion can not bear disclosure? It has, prima facie, a bad appearance when such a seeming consciousness displays itself, and, if the employers' unions do not shrink from the light of publicity being cast upon their proceedings, the president of the labor defense committee should at least have the tact to cloak his timidity. To hold over a report of the proceedings till the end of the inquiry would defeat the principal object, for few, if any, would wade through the voluminous report after the interest had gone from it; but by projecting the proceedings of the commission day by day on the broad sheet interest will be kept awake and the public will

be fully seized of the details. The effort at concealment on the part of the labor defense committee will find no support in the commission, and we trust that Mr. Finch will himself see the suspicion he is throwing on his party by his attempt to exclude the press from the inquiry.

It is only natural that the press and general public should take the profoundest interest in the action of the royal commission, in the hope that some remedy may be devised for the prevention of strikes and the consequent evils attendant upon them. Attention is just now being directed to the punishment by fines and imprisonment of those who simply acted as agents for the trades and labor unions.

Among the cases set apart as especially worthy of mention is that of A. Rae, who was a local secretary, and conveyed a resolution passed by the shearers' union to the members of the union in his district calling upon them to leave work on strike without, it is said, any intention on his part of influencing the persons to whom he delivered the orders. The case was tried in the law courts and judgment was delivered to the effect that the resolutions, or orders, conveyed by Rae were for the purpose of inducing workmen to break their contracts, and the result was that Rae was fined in a number of cases and, as the fines were not forthcoming, he has been imprisoned. A deputation composed of members of the shearers' union waited on the minister for justice in Sydney and applied for a remission of the penalties. They urged that Rae had only done subsidiary duty for the shearers' union, which, in the event of his refusal, others would have done, and that any prosecution of a servant of any union was unjustly discriminatory while the union itself was not proceeded against. It was stated that if Rae had broken the law every unionist secretary in the colony had done the same. The minister for justice, however, stated that no plea of direction by others could exonerate Rae, if he had committed the offense, and that every intelligent man must take the responsibility of his own actions, no matter to what degree he may have been influenced by the persuasions of individuals or organizations.

It may be mentioned that patrols and pickets were appointed by the unions to interfere with and intimidate those who, because they did not come under the orders of the unions, endeavored to pursue their ordinary occupations, and the most arbitrary and unjustifiable methods were resorted to for the avowed purpose of inflicting hindrance and loss upon certain employers. No effective notice was taken by the Government of these proceedings any further than to send a police or military force to preserve order in the event of any violence being committed by either side. Special constables were also sworn in, and their employment, together with the additional expense entailed through the use of the regular military and police forces, involved the country in very heavy expenditure; but this expenditure was small in comparison with that occasioned by the stoppage of the shipping, coal mines, gas-works, flour-mills, iron-foundries, shearing operations, and trade generally, while the strike lasted.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, December 13, 1890.

SILK CULTURE IN SIAM.

REPORT BY CONSUL-GENERAL CHILD, OF BANGKOK.

The manufacture of silk in Siam is confined entirely to the Laos villages scattered throughout the country and to the Cambodians residing in the southeastern provinces bordering on Cambodia. The Siamese proper know nothing of rearing the silk-worm, an art which has been transmitted to the Laos through successive generations. The centers of silk productions in Siam are Korat, an ancient walled city, 130 miles northeast of Bangkok, and Battimbong, 200 miles to the southeast. Beautiful cloths, interwoven with gold and silver thread, are woven at Chiengmai, and a quantity of raw silk is annually exported from Hluang Prabang, on the Me-Kong River, to Chiengmai, one of the principal Laos states bordering on Burmah. The raw silk exported from Bangkok is sent to India, where it is mixed with the finer grades of Indian silks and woven into the better qualities of piece-goods. In many of the provinces the production of silk is annually diminishing, owing to the fact that foreign cotton goods are finding a market in these states, and the natives find that the time spent in the rearing of the silk-worm and the manufacture of cloth can be more profitably occupied in other avenues of industry.

The industry is confined solely to the women, who cultivate the mulberry-tree and weave the silk into scarfs and *panoungs*. The silk-worm is reared in the wet season, when the tree is in full leaf, as only a small supply of leaves can be obtained in the dry season. As the silk is intended for their own use, they are careless in the rearing of the worm, and their rude instruments make the reeled silk of varying size and strength.

The annual export of raw silk shipped from the port of Bangkok is less than $100,000, and no silk fabrics of any kind are exported. I have obtained from Mr. W. J. Archer, of the British legation, who was deputed to go to the province of Kabin and investigate the silk industry, much of the information concerning the rearing of the worm and the reeling of the silk.

THE TREE.

The tree is called by the Laos *ton mon* and the worm *tua mon.* There are two kinds of tree, but it appears doubtful whether they were originally distinct. The large kind is similar to the mulberry-tree, on the leaves of which silk-worms are fed in other countries, and in its full growth reaches a height of from 20 to 30 feet. This tree is, however, by no means common, as it is found very difficult to rear, requiring great care when young, though when it has firmly taken root it requires no attention, and is said to attain a great age. Ordinarily, only a small proportion of the trees planted are found to grow, for want of proper care. The tree should be carefully pruned, as is done in Europe, but this is not always attended to, and the branches therefore grow long and straggling, and the leaf loses much of its value. Like the European tree, it has a small white flower in clusters, but it bears no fruit. In Hluang Prabang, about 450 miles to the north, it is said to bear a red berry and is probably the same as the European black mulberry-tree. It is reproduced from cuttings, and is found to grow best on dry, sandy soil.

This kind has not been cultivated long in the provinces of Pachim, but was introduced from Korat some fifteen or twenty years ago.

The common kind is much smaller, and consists of a stem about half an inch in diameter with small branches at regular intervals. Its height is generally about 5 feet, but it may reach 7 feet. The bark is similar to that of the large kind, and the leaf appears to differ only in size; but I was told that the worms must be fed exclusively on the leaves of one or the other of the two kinds. It is also planted on dry ground, but the soil may be damper than with the larger kind. It requires constant watering and some care until it has grown to a height of 1 or 2 feet, and is manured once a year, in the sixth month before it is cut. The mode of reproducing is as follows: When the tree is about a year old, that is to say, in the month of April or May, it is cut down to the level of the ground, and then cut again into pieces some 10 inches long, which are planted in soft, loose soil. The cutting is inserted almost entirely, leaving only the top exposed. It grows very quickly and in about two months has produced sufficient foliage with which to feed the worms. The plantations are generally inclosed, in order to prevent cattle and buffaloes from browsing on the young shoots. The cuttings are planted irregularly and often mixed with other trees.

THE LEAF.

The shape of the leaf is cordate and deeply indented. Its size does not exceed 2 or 3 inches in the small kind, while that of the larger is often more than double. Both kinds bear leaf all the year round, but very little in the hot season. It is from the eighth to the eleventh month, that is to say, from June to September, that the new trees bear a sufficient quantity of such tender leaves as are most suitable for the young worms. Until the worm has cast off its new coat, when seven or eight days old, the leaves must be sliced; but after the third casting of the skin the larger leaves may be given freely, as also small branches. Care should be taken to give the leaf dry, but not dried.

THE SILK-WORM.

A small quantity of worms are reared throughout the year in order to keep up the breed, and about nine generations may thus be obtained in the course of one year. It is only, however, when the cuttings planted in April or May, as before described, have grown to a height of 4 or 5 feet that a large quantity of leaves can be obtained. The rearing season is therefore from the end of June to the end of September, and two broods are generally reared; but it is probable that the constant stripping of the leaves render the later produce inferior to the first.

The eggs are hatched in the period of ten days. The worms are then kept on the same piece of cloth on which the eggs have been laid by the moth for four or five days, when they are large enough to be taken off and placed on a round, flat tray of bamboo wicker-work about 3 feet in diameter, with a rim 1 inch high, in which they are kept until ready to spin the cocoon. The wicker-work should not be close, but ought to leave sufficient space for the litter to pass through without the worms falling off, and the basket is then called *takreng*. This precaution is often neglected, and the ordinary baskets used for winnowing rice are commonly used; these are then called *kadong*, both by Siamese and Laos; but in the north the rim is generally higher, and they are then called *ho*. The litter is then taken off by removing the worms with the hand into another basket.

The worms are not fed for the first few days. They are then fed three times a day—morning, noon, and evening—but they eat but little before the second casting of the skin; after that stage, however, they eat voraciously and are fed four or five times a day. They cast off the skin four times; the Laos say they "go to sleep," and call the different stages the first, second, third, and fourth sleep (*non nung*, *nongsóng*, etc.). The size of the worm at the third casting of the skin is about 1 inch, and it is then of the ordinary greenish tint. After the fourth sleep it turns yellow, and soon after it is ready to spin. This is denoted by its refusing its food and straying away from it; it is then called *suk*, or ripe, and is close on a month old. Those that are ripe are then removed to a tray similar to the former, but having on its flat surface a number of concentric circles of bamboo trellis-work about 1½ inches high. There is thus between the circles a series of compartments 1½ inches broad, in which the worms spread their web and spin the cocoon in the course of a day or a night. This tray, called *tcho* by the Laos, as well as the other ones containing the worms or seed, are all placed on a series of frames, called *kheng*, made in such manner as to prevent ants or other insects from molesting the worms or cocoons. This contrivance is very simple and appears to answer the purpose very well. A series of four or five oblong frames are formed by four vertical pieces of bamboo, or sometimes rope, some 4 feet long, which are kept apart at intervals of about 10 inches by horizontal pieces 2 feet long placed broadwise and rather less than 4 feet long placed lengthwise. The whole is firmly attached, and the two vertical pieces on either side are tied together after the topmost tray, and the rope is made to pass through a cup, generally half of a cocoa-nut, filled with water. The whole is then suspended to a horizontal pole, which hangs from the ceiling in the corner of the common sitting room or bedroom.

The trays are always carefully covered with a piece of cloth, in order to prevent flies and other insects from molesting the contents, but care is seldom taken that the position should be either cool or airy. The small quantity of worms reared in the hot season seems to be affected by the heat only to a modified extent, but perhaps the loss would be greater if the rearing season were not comparatively cool.

DISEASES.

There is stated to be a disease that is often fatal and which is probably the same as that called "jaundice" in France. The worm turns quite yellow, and a quantity of saliva issues from its mouth. It is said, however, to be due to ignorance or carelessness in rearing the worm, and those who have more experience are hardly ever known to lose any. The worms are also sometimes too weak when ripe and spin a cocoon which is thin and worthless, but this may also be attributed to neglect.

In size the cocoons compare unfavorably with the European kinds, being only about two-thirds as large; but in the northern Laos provinces, where there are two rearing seasons, one in the late summer and the other in the late autumn, the cocoons of the first produce are said to be of a larger size. When formed they are detached, and, if only in small quantities, they are thrown into boiling water and reeled within the next few days. If a larger quantity is obtained than can be reeled conveniently without delay or if it is desired to keep them for some time, they are put out in the sun for a day. With a clear sky the worm is supposed to have been killed by midday.

GRAINAGE.

When it is desired to obtain the seed, the cocoons are kept in one of the baskets described above and carefully guarded from insects. The rearers who have most experience can easily distinguish the cocoons containing the male chrysalis from those containing the female by shaking them, when the former are said to give a firmer sound. The female moth, however, is plainly distinguished by its larger size and because it remains stationary after leaving the cocoon, while the male flutters about. They come out of the cocoon before morning, and, if then coupled, must be detached in the afternoon. The male is then thrown away, and perhaps forty or fifty of the females are placed on a small piece of cotton cloth and covered with a cup to prevent their straying and scattering the seed over too large a surface. The next morning the females, having laid their eggs, are thrown away, and the piece of cloth is folded and put away on one of the trays until the eggs are nearly hatched. There appears to be very little disease amongst the chrysalides, and, if the cocoons are properly taken care of, hardly any die.

SPINNING AND SPINNING MACHINES.

The thread is generally coarse, for at present little care is taken to render it fine, and, excepting for their best silk cloths, a thick and strong thread is preferred.

The spinning machine is of a very rudimentary description. A thin piece of soft wood some 2 inches broad is bent in the shape of a horseshoe; about 10 inches from its extremities a piece of wood of like thickness and breadth, and having a small hole in the middle, is fixed horizontally; some 6 inches above it is a small winder placed horizontally in the same manner. The two extremities of the machine are fixed on two small flat pieces of wood having a groove on the inner side, which enables it to be fixed on to the rim of an earthen pot. It thus stands over the mouth of the pot filled with boiling water, in which a number of cocoons—perhaps forty or fifty—have been thrown. The spinner sits before a small fire-place, on which is placed the pot with the spinning machine fixed firmly on to it, and with a stick having a small slit at the top shakes the cocoons in such wise as to collect the threads of about half the number in the pot. Having twisted them with the hand into a single thread, it is passed through the small hole and fastened loosely over the winder. It is then pulled out with the right hand, the winder being thus caused to revolve, and is gradually heaped up in a basket close at hand. In the left hand the spinner holds the stick described before, with which to keep down the filament when it becomes entangled. An experienced hand is able to spin with considerable rapidity, but it is evident that it is not easy to produce rapidly a fine or regular thread. This machine is called by the Laos *mak hueng talok.* Its height is generally about 3 feet, but sometimes it is higher, being formed of a bamboo slit in half and fixed on the pot in the shape of an isosceles triangle.

REELING.

The thread is reeled on a winder 20 inches long fixed horizontally on a stand (*ak*), on which the thread is improved by scraping off with a knife where it appears irregular and by removing any blemishes. It is then re-reeled on another winder (*pia*) made of two sticks fixed horizontally on the extremities of a piece of wood about 2 feet high. This is held in the middle with the left hand and the thread wound in zigzag fashion with the right over the extremities of the cross sticks. The skein thus takes the shape in which it is generally sold. Sometimes this winder is replaced by another formed by four cross-pieces instead of two, the extremities of which are joined with string; it is then laid horizontally on a stand, is furnished with a handle, and the thread is reeled over the strings. This winder, called *ra-wing*, is used both by the Laos and Siamese.

When it is required to twist a double thread or tram, another instrument comes into use. A narrow stand (*nai*) about 4 feet long contains at one end a large wheel turned by a handle. A string is passed over the latter and round a piece of iron a foot in length, projecting from the stand on one side and rounded at the end. Some rough cotton is wound over the middle part, in which the string catches, so that in turning the wheel the iron point revolves quickly. The two or more threads are tied together to the extremity of the iron instrument, and this in revolving twists them firmly together.

This instrument, as well as the winders, is used for cotton, as well as silk, thread.

JACOB T. CHILD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Bangkok, November 24, 1890.

COMMERCE IN GIBRALTAR AND SPAIN.

REPORT BY CONSUL SPRAGUE.

GENERAL TRADE AND COMMERCE.

On the present occasion I have very little to add to my previous reports regarding the general trade and navigation of Gibraltar in connection with the United States.

Shipping.—Notwithstanding that the usual navigation of this port has been pretty active since the withdrawal of quarantine against certain Spanish ports, the total absence of American merchant shipping still continues conspicuous at this port.

I transmit a return of the numerous foreign steamers that have called at this port during the past year to coal and provision and the number of steerage passengers on board, being chiefly emigrants from Italy and Sicily bound for the United States.

Cold weather.—The season for the usual sowing of barley and wheat in Spain has been somewhat retarded on account of unusually cold and tempestuous weather, which has also caused considerable injury to the sugar-cane plantations towards the district of Malaga.

Prices of cereals.—Prices in foreign cereals have been gradually advancing in this market and its immediate neighborhood, and American flour has been in very fair demand. The supplies have been moderately though constantly imported direct from New York by foreign steam-ships; also, refined petroleum in tins, which important article of consumption continues to be dealt with here by a few traders for retail sale on their own account. The demand for Russian descriptions does not seem to improve.

Increase in the Spanish tariff.—The Spanish Government, under the actual administration of Señor Canovas del Castillo, yielding to the prayers of the most influential agriculturists in Spain to afford them greater protection against foreign importations of all descriptions of cereals, flour, lard, cattle, etc., has suddenly seriously increased, from the 1st instant, the late duties against such foreign importations into the Kingdom of Spain.

While the farmers and all others interested in agricultural pursuits in Spain are now jubilant at this late important change in the Spanish customs tariff for their benefit, the consumers, on the contrary, look upon the future in despair, especially those residing in this immediate neighborhood, since they are likely shortly to have to pay dearer for their daily bread, as well as everything else comprising the actual necessaries of life.

This protective measure created quite a general stir in this market between the 29th and 31st ultimo, during which days quite a sudden and active demand sprang up for all kinds of cereals, flour, lard, etc., for immediate entry into the Spanish lines and neighboring towns, thereby exhausting, for the present, the stocks in this market of most all articles of food of daily consumption.

I apprehend, however, that in future the demands upon this market will be seriously diminished, owing to the enormous duties which the Spanish Government has just been induced to levy upon so many important articles of food, which compose the general retail trade of Gibraltar.

The cork industry.—The cork industry in this immediate neighborhood has lately experienced increased activity by further shipments of cork wood from this port for New York, as the returns of exports during the past quarter will show.

No doubt this increase in the shipments of cork wood to the United States is due to the new United States tariff now in force, which increases the duty on all manufactured cork wood and bottle corks, while the article in its primitive state still continues, as hitherto, to be free.

Algeciras Railway.—The work on the railway from Algeciras toward Bobadilla station, on the Malaga road, continues unabated. It is now open to general traffic as far as Jimena.

Coal trade.—The coal trade at Gibraltar has considerably revived since the Spanish ports are again in free pratique with the rest of the Mediterranean and Levant ports. It continues to be the principal item of traffic, wherein the largest portion of the laboring classes are engaged for their support.

Coal-heavers' strike.—Not long since a fresh strike took place, in consequence of renewed litigation between the coal-heavers and some of their foremen, who were supported by the coal merchants. This strike seemed to become so serious, on account of three of the ringleaders having been arrested by the civil police for riotous behavior, that the authorities, in face of the menacing attitude of over one thousand of the strikers, who demanded that the prisoners should be at once released, were induced to have the riot act read, and a company of troops was turned out with their muskets loaded with buckshot to be ready to suppress any further disturbance, which soon had its desired effect, and after the expiration of a couple of days the difficulties were amicably arranged and the work of coaling was duly resumed, to the satisfaction of the community at large.

NAVIGATION TO THE UNITED STATES.

Table showing foreign steam-ships that have called at the port of Gibraltar, with the number of passenger emigrants on board, during the year 1890.

Name.	Nationality.	Where from.	Destination.	Date of clearance.	Number of passengers.
Elysia	British	Naples	New York	Jan. 13	260
Iniziativa	Italian	Sicily	do	Jan. 16	299
Entella	do	do	do	Jan. 31	102
Total					661

Table showing foreign steam-ships that have called at the port of Gibraltar, etc.—Continued.

Name.	Nationality.	Where from.	Destination.	Date of clearance.	Number of passengers.
Bolivia	British	Naples	New York	Feb. 5	295
Letimbro	Italian	Sicily	do	Feb. 13	115
California	British	Naples	do	Feb. 14	360
Alsatia	do	do	do	Feb. 25	255
Total					1,025
Italia	British	Sicily and Naples	New York	Mar. 2	301
Alexandria	do	Naples	do	Mar. 10	241
Giava	Italian	Sicily and Naples	do	Mar. 11	592
Belgravia	British	Naples	do	Mar. 13	1,409
Neustria	French	do	do	Mar. 14	987
Utopia	British	Sicily and Naples	do	Mar. 15	536
Stura	Italian	do	do	Mar. 23	669
Victoria	British	do	do	do	1,033
Burgundia	French	Naples	do	Mar. 27	1,050
Iniziativa	Italian	Sicily and Naples	do	Mar. 30	641
India	British	Naples	do	do	773
Total					8,232
Pictavia	French	Naples	New York	Apr. 5	789
Elysia	British	do	do	do	846
Britannia	French	do	do	Apr. 15	1,045
Australia	British	do	do	Apr. 18	791
Eutella	Italian	Sicily and Naples	do	Apr. 19	753
Washington	do	Sicily	New Orleans	Apr. 20	171
Alesia	French	Naples	New York	Apr. 22	1,063
Olympia	British	do	do	Apr. 23	648
Letimbro	Italian	Sicily and Naples	do	Apr. 26	711
Auglia	British	Naples	do	Apr. 27	670
Total					7,487
Bolivia	British	Naples	New York	May 5	1,005
Caledonia	do	do	do	May 7	659
Birmania	Italian	Sicily and Naples	do	May 8	626
Assyria	British	Naples	do	May 10	336
Neustria	French	do	do	May 12	1,081
Trinacrea	British	Sicily	New Orleans	May 18	450
Giava	Italian	Sicily and Naples	New York	May 22	428
Burgundia	French	Naples	do	May 24	1,122
California	British	do	do	May 27	780
Alexandria	do	Sicily and Naples	do	May [illegible]	250
Alsatia	do	Naples	do	May 31	294
Total					7,031
Italia	British	Sicily and Naples	New York	June 11	374
Britannia	French	Naples	do	June 13	789
India	British	do	do	June 23	358
Alesia	French	do	do	do	455
Stura	Italian	Sicily and Naples	do	June 26	385
Belgravia	British	Naples	do	June 30	497
Total					2,858
Entella	Italian	Sicily and Naples	New York	July 2	153
Iniziativa	do	do	do	July 16	174
Elysia	British	Naples	do	do	374
Total					701

Table showing foreign steam-ships that have called at the port of Gibraltar, etc.—Continued.

Name.	Nationality.	Where from.	Destination.	Date of clearance.	Number of passengers.
Bermania	Italian	Sicily and Naples	New York	Aug. 2	335
Victoria	British	do	do	Aug. 10	601
Letimbro	Italian	do	do	Aug. 12	207
Caledonia	British	Naples	do	Aug. 31	667
Total					1,810
Neustria	French	Naples	New York	Sept. 3	695
California	British	do	do	Sept. 8	417
Stura	Italian	Sicily and Naples	do	Sept. 11	400
Burgundia	French	Naples	do	Sept. 16	510
Iniziativa	Italian	Sicily and Naples	do	Sept. 21	273
Australia	British	Naples	do	Sept. 22	385
Alesia	French	do	do	Sept. 27	890
Total					3,570
Elysia	British	Sicily and Naples	New York	Oct. 1	1,034
Giava	Italian	do	do	Oct. 4	409
Entella	do	Sicily	New Orleans	Oct. 7	832
Britannia	French	Naples	New York	Oct. 8	568
Birmania	Italian	Sicily and Naples	do	Oct. 16	348
Belgravia	British	Naples	do	Oct. 19	1,097
Letimbro	Italian	Sicily and Naples	do	Oct. 25	301
Total					4,589
Neustria	French	Naples	New York	Nov. 2	881
Victoria	British	do	do	Nov. 3	627
Karamania	do	do	do	Nov. 12	547
Devonia	do	do	do	do	318
Stura	Italian	Sicily and Naples	do	Nov. 30	329
Total					2,702
California	British	Naples	New York	Dec. 3	713
Hindoustan	French	do	do	do	406
Iniziativa	Italian	Sicily	New Orleans	Dec. 9	196
Giava	do	do	New York	Dec. 19	157
Utopia	British	Sicily and Naples	do	Dec. 22	449
Total					1,921
Grand total					42,587

HORATIO J. SPRAGUE,
Consul.

UNITED STATES CONSULATE,
Gibraltar, December 31, 1890.

German pork in Italy.—A decree has been issued by the Italian minister of the interior, admitting into Italy swine meats from Germany, whenever the same are accompanied by proper certificates from the German authorities as to their healthfulness.—AUGUSTUS O. BOURN, *Consul-General, Rome, December 18, 1890.*

IMMIGRATION TO THE AMAZON.

REPORT BY CONSUL KERBEY, OF PARA.

Some time since I received an official communication from the officials in charge of lands and colonization for the state of Para, inviting the aid of the United States consul in compiling for the state general information and statistics that come to the knowledge of this consulate.

I have given this subject of immigration considerable investigation, with a view of advising the Department in regard to the question of the interests of the United States in the development of this wonderful Amazon valley.

A recent publication of the state government, intended to supply all necessary information, has been sent to this consulate. As it is in Portuguese, I have had that part of the document translated which I found most applicable to us.

While Brazil desires and endeavors to stimulate European immigration to her territory, it will be observed that the recent law on the subject, numbered 528, dated June 28, 1890, is more in the interests of south Brazil, and is not at all adapted for attracting immigrants to the Amazon valley.

Since the abolition of slavery, May 18, 1888, the large planters of southern Brazil have found difficulty in obtaining laborers to suit their taste and wants.

The law quoted above, No. 528, promises Government aid for the European emigrants of the Caucasian race, but, until further action is taken by the National Congress, aboriginal Africans and Asiatics are excluded from the benefits of the law and probably, by the most literal interpretation of the law, they are also excluded from this country.

European emigration, as is well known, seeks almost entirely the north and the south temperate zones, while Brazil, which lies almost entirely within the tropics, receives none, comparatively.

It is thought that the more desirable class of emigrants for this climate and latitude may be brought from the Mediterranean. The criticism is made that the foreigners who come to this country from the northern sections do not assimilate with the people and seldom marry or settle amongst them.

It is suggested that a line of French steamers be placed on the route between the Amazon and ports on the Mediterranean, with a view of encouraging and facilitating this class of immigration.

The English steamers to European ports do not pretend to foster immigration. As outlined by the translation from the Government publication, the general plan of Government aid is about as follows: (1) The subsidizing of transatlantic steam-ship lines which bring a minimum of ten thousand immigrants per year to Brazil, (2) the payment of third-class passage for such immigrants on certain conditions, (3) the granting of lands to capitalists or corporations for the purpose of founding colonies of immigrants,

(4) the granting of stipulated amounts of money to said capitalists and corporations for the construction of houses and roads, (5) payment of return passage to Europe for the widows and children of immigrants who may die within a year after arrival in Brazil and for persons maimed by accident within six months after arrival.

The law contemplates both the old planters who may wish to people their plantations with laborers and also speculators who may wish to go into the colonization business. In these two similar cases the aid is only for agricultural laborers and their families, and for artisans and house servants, not including their families.

The exact destination of each immigrant must be known and agreement signed by him before he leaves his native land, and there must also be an agreement signed by the proprietor of the plantation or colony that he will furnish to the immigrants consigned to him the necessary help for their maintenance until such time as they shall be able to obtain it by their own labor.

Without going into all the particulars, the following is the general line of formalities to be observed by a farmer who wishes to emigrate to Brazil with his family and receive the aid offered by the law:

He must first correspond with some planter or colony-planting capitalist or corporation, personally or through an immigration agent, and receive, with the local Brazilian consul's indorsement, a translation of the mutual terms of agreement between the land proprietor and the immigrant.

This document he signs in duplicate, and it entitles him and his family to their passage from the sea-port of his native country to Brazil by any steamship line which has a contract with the Brazilian Government for this purpose. In his family are included his parents, if they are above fifty years of age, as well as his children's children. In case there are cripples in the family, he is entitled to free passage for one cripple for two corresponding able-bodied members in the family.

All these matters must be legally certified to, as well as the ages, parentage, and relationships existing among the immigrants, before embarking.

On their arrival at the Brazilian port they still have right to free transportation as far as to the plantation or settlement for which they are destined by their contract.

There they are to find a house ready for their accommodation, costing $125, built by Government money, and for which no charge is made to the planter, but which the immigrant pays him for, as the price of it is included in the price of the plot of ground on which it is situated, and which is immediately the immigrant's farm, with a title conditioned on full payment therefor.

The maximum price of uncultivated land for the immigrant is $5 per acre, and of cultivated land is $10 per acre. For uncultivated land the owner of the colony pays to the Government about 20 cents per acre.

Fifteen hectares, or about 40 acres, is the size of the farm of wild land allotted to each family. It may be smaller if cultivated, 13 acres being the minimum.

The payment is to be made by yearly installments, the debt drawing a maximum interest of 9 per cent., and the farm being mortgaged to the owner of the colony until the whole amount has been paid.

The owner of the colony is required to advance money for tools, seed, provisions, etc., if necessary, and the price is added to the mortgage on the farm.

The immigrant receives a conditional deed of the land, in which is stipulated the yearly payments to be made, and on which they are indorsed when made. The payment in full can not be required in less than ten years. When all paid up, the immigrant receives a deed in fee simple.

In case the farmer becomes two years behind on his yearly payments, the proprietor of the colony can oust him by paying him for the improvements made and re-imbursing him for half of the amount paid up, after deducting the money advanced for provisions, etc.

If the farmer leaves the lot without the consent of the proprietor of the colony, he can not claim a cent for any thing he may leave behind, and he can not sell or transfer his interest in the land before it is fully paid for without the consent of the proprietor.

The local justice of the peace is to name the arbiter in case of dispute as to the value of improvements that may have been made on the land.

As above stated, the plan is not at all suited to the Amazon valley in its present condition.

From a recent communication from this consulate, consisting of a translation of a series of articles published in the daily newspaper A Republica of November 5, 6, and 7, and entitled "Land Property Titles in Para," it will be very evident that with land so cheap and so available for those who wish to buy no sane man would submit to the conditions of that law for the paltry amount required to pay his third-class passage across the ocean. Besides that, the tracts of land available for immediate settlement are narrow, frequently interrupted stretches along the margins of the water-courses. The upland of the Amazon valley is still untouched, except in a few little spots. It is too far from the rivers, and the only roads are the rivers. In fact, nobody knows any thing about the upland, except that it is, for the most part, an unbroken and almost impenetrable forest.

The immigrant to the Amazonian valley has to begin and learn every thing over from the very first, almost from the time of the floods, and the probabilities are that he will "die a-learning." Certain it is that, unless he takes hold of the new (or old) order of things pretty suddenly and possesses a faculty of adapting himself gracefully to circumstances, he will soon declare Amazonia to be the most God-forsaken land under the sun, notwithstanding its rich soil, warm climate, and luxuriant and beautiful foliage. The hot, moist climate enervates foreigners who may come here to settle. Sometimes the immigrants themselves retain most of their native vigor, but their children and grandchildren take on a different type. The period of acclimatization is about two years, after which there is no danger to be apprehended from the yellow fever.

The colony of Americans from the Southern States, which immigrated and settled at Santarem, about 500 miles up the Amazon, has not seemed to thrive; but of this I will be able to report more satisfactorily after I have made them a personal visit in response to a courteous invitation.

As a general thing, a man without capital coming here will have a pretty rough time of it. Within the past few weeks a hundred or more Spaniards and Italians have been sent to Para from points further south, apparently to get rid of them. They had not been contracted for here, but the state government was responsible for their support until they could be provided for in some other way. They were huddled together like pigs in a pen in two houses on the Estrada de San José. They remained there for several weeks at Government expense, and would probably still be there, if they had not become a perfect nuisance by their filthy habits, their thefts and drunken rows and night attacks on passers-by. Then the respective officers divided them up in groups and sent them out along the Bragança Railway, where a little farming is being done on a small scale, and where huts could be found for them. Some of them obtained employment of different kinds; but the "agriculture" which the Government wishes to encourage by this immigration has not been undertaken by them. The probability is that a large share of them will be in the rubber swamps before a year has elapsed.

The one first, last, and only reason why there is almost no agriculture in this valley is because rubber gathering, although more dangerous to health, pays bigger returns for the labor expended than any thing else. This industry keeps a large part of the population at the margins of the rivers and in the swamps, where the malaria eats away their numbers nearly as fast as they flow in from the southern parts of Brazil. India rubber is at present the one great industry of the Amazon, and any who may contemplate coming here to undertake either the gathering or cultivation of the plant are referred to my report on India rubber, dated at this consulate November 26.

Large fortunes have been made and are still to be made in the Amazon valley, but it does not seem immediately available for immigrants. The agricultural possibilities are immense, the soil is fertile, and there are never any frosts or droughts; but on the question of the great resources of the Amazon I have gathered material for another report to follow this.

JOSEPH O. KERBEY,
Consul.

UNITED STATES CONSULATE,
Para, December 9, 1890.

ARTIFICIAL ICE IN THE WEST INDIES.

REPORT BY CONSUL BRADFORD, OF ANTIGUA.

I have the honor to inclose a letter to the hygienic ice companies of the United States, suggesting the establishment of an ice manufactory in these islands. This is an entirely new industry, and will, I have no doubt, pay well in the hands of Americans.

The establishment of the new line of steam-ships from the United States to the Windward and Leeward islands and the erection (soon to be commenced) of a large American hotel at this place will doubtless create a demand for cheap ice, much greater even than now exists.

I may say, in concluding this dispatch, that His Excellency the governor is very much interested in the plan of getting an American company here, and I have little doubt that the governments of the Windward and Leeward islands would pay such company a handsome subsidy.

JNO. S. BRADFORD,
Consul.

UNITED STATES CONSULATE,
Antigua, January 10, 1891.

CONSUL BRADFORD'S LETTER.

[Inclosure in Consul Bradford's report.]

CONSULATE OF THE UNITED STATES,
Antigua, W. I., January 10, 1891.

The very urgent need of a sufficient supply of ice in the West Indies, and especially in the Leeward Islands, and the certainty of adequate remuneration to any company which should establish a plant on this or some neighboring island for the manufacture of cheap ice for the supply of the islands between the Virgin group and Trinidad, have induced me to communicate with you, through the Department of State, and to offer a suggestion that it might be desirable to consider the question with a view to locating a manufactory here.

The population of the two groups forming the Leeward and Windward islands is about 300,000. The numerous public institutions and the Government offices are, however, very large consumers, as are also the sugar planters who reside on their estates. The present supply is in the hands of one man, who, besides his profits, receives an annual subsidy of £200 ($1,000 nearly) for supplying only a few of the Leeward Islands. The supply is uncertain, exceedingly meager, and excessive in price.

I am in a position to state that, if an American company should elect to establish itself here, it would receive every facility and active aid from Her Britannic Majesty's colonial government.

I offer these suggestions to you, gentlemen, for what you may think them worth, being fully assured, however, that there is here an excellent opening for an enterprising, energetic American company.

JOHN S. BRADFORD,
Consul.

THE SCALE INSECTS IN EGYPT.

THREE REPORTS TRANSMITTED BY ACTING CONSUL-GENERAL GRANT, OF CAIRO.

I. REPORT BY DOCTOR CATELAN, OF FRANCE.

[From the Phare d'Alexandrie of November 5, 1890.—Translation.]

The insects, which at present infest the trees and shrubs in the gardens in Alexandria, belong to a species of pucerons similar, if not analogous, to the plant louse of the apple-tree, (of the schizoncura kind).

This puceron, whatever may be its origin, appears to attack many kinds of plants—mulberry-trees, sycamore-trees, pepper-trees magnolia-trees, rose-trees, etc. Like all kinds of pucerons, it secretes a sugary liquid, which spreads over the leaves and shoots, falls drop by drop on the ground and the herbaceous plants, where it is soon converted into a black granulous matter (honey-dew), which is constituted by an active vegetation of mushrooms, which themselves cause the decay of the plants, just as the insect destroys the leaves of the trees on which it deposits its secretion. This sugary substance draws a great number of insects from all around, particularly ants, which are very fond of it. This is why several gardeners whom I have questioned believe that ants come to couple with the puceron for its reproduction. This is a great error.

This insect is wingless and viviparous. Eight or ten times during the summer each female can deposit small living pucerons, which feed on, and are developed in, the sugary substance. But this is not the only mode of reproduction. A great number of females pass through a second metamorphosis, when they take very fine membranous wings, which enable them to go to the neighboring trees or to be carried by the wind to some distance.

As soon as the latter are settled on the trees, they lay eggs which produce the viviparous females, and the latter recommence the cycle of successive reproductions. At this moment on the trees, and more especially on the leaves, the puceron is seen under the aspect of a white flaky mass, nearly always adhering to the backs of the leaves.

The body, which measures as much as 2½ millimeters and even more, is soft reddish-yellow in color, and, so to speak, lost in white sticky wool, formed by a waxy matter which water does not penetrate. This wax is secreted through the skin of the animal as a protection against water; it is simply a mantle for protection. The insect is globulous, of an oval form, and is provided with three pairs of legs, from two to four antennæ, and a sharp sucker, with which it attacks the leaves and the outside of the young shoots, where it settles. As said above, a female can lay eggs as many as eight or ten times during a summer season, and these thousands of small pucerons, which grow very rapidly, lay eggs in their turn a certain number of times. This is what explains such rapid invasion over such extensive areas, although the animal is endowed with very slow movements and is restricted, relatively, to limited distances.

At the end of autumn or at the beginning of winter the female lays a single egg, which she deposits within the bark and dies. This egg is hatched in spring and produces a viviparous puceron without wings resembling those described above, and which recommences laying eggs and produces millions of living insects, which, in their turn, bring the contingent of their layings. Such are the great series of reproduction through which the insect passes. It has been studied and observed in France, in the neighborhood of Montpellier, by Mr. Lichtenstein. There it attacks almost exclusively apple-trees and a few similar fruit-trees. It is said that it was imported from Canada with cuttings of apple-trees about one hundred years ago.

Besides fumigation, whitewashing the trunks of the trees affected has for a long time been practiced in those regions to prevent the winter egg from hatching.

To effectually prevent the propagation of the insects, it is indispensable to destroy as much as possible all herbs, branches, and leaves which give refuge to the viviparous female.

To be effectual, this operation should be performed at the beginning of winter and spring, and it is necessary to burn on the spot fallen leaves, and also the annual and perennial herbaceous plants on which the sugary secretion is spread and where the young ones take refuge.

Finally, the most important operation is to stop the hatching of the winter egg. As it is probable that the bark of the surface roots of the trees and the perennial plants, turf, and shrubs growing under the infected trees serve as a refuge to these eggs, it can not be hoped to destroy them all, even with the minutest care, during a single season; but probably there would be a considerable diminution of the spring laying and the multiplication of the insect. In France the arboriculturists have often succeeded in efficaciously preserving fruit-trees by applying an oily coating, with which they cover the trunk of the tree and principal branches before the rising of the sap, about which time the hatching takes place.

2. DR. OSMAN BEY GHALEB'S REPORT.*

[Translation.]

From examinations of the insect sent from Alexandria, it appears that it is a variety of membranous insects, called *Coccus athonitum*. The insect in question lives on leaves and barks of plants; it sucks its nourishment from their sap. It is thought that it comes from Senegal, whence, no doubt, it was imported into Europe with various plants. At present it infects the roots of many plants originally from Europe. It may be said that it was introduced into Egypt on plants sent from Europe by agriculturists. There is a male and a female. The skin of the back, as well as that on the belly on the lower part for half the length of the insect, secretes in great quantity a waxy matter, in which the female lays her eggs, the covering of which resembles a sieve. Shortly after the hatching takes place the young insects are subjected to ordinary metamorphosis until they attain their perfect formation; then they are developed and recommence the cycle of reproduction.

This insect multiplies very rapidly. Its body is of an orange yellow color, which has a characteristic shade. In Europe they employ for its destruction water mixed with nicotine, with which they sprinkle the infected plants. The use of these means being very difficult in Egypt, it is preferable to have recourse to the procedure proposed by His Excellency Osman Pasha Orphi, which is to sprinkle the plants with lime-water and by applying to the trunk a layer of tar in order to prevent the insect from descending to the ground and destroying the roots.

3. DISEASE OF TREES.

[From the Phare d'Alexandrie of November 5, 1890.—Translation.]

We continue to publish to-day communications received in regard to the disease of trees which is ravaging the trees in our gardens and promenades. This question is one of great interest.

We believe, therefore, we are doing a useful service in placing before the eyes of our readers the two preceding reports of two doctors whose competence can not be doubted. In fact, the first was written by Doctor Catelan, sanitary doctor in France, and the second by Dr. Osman Bey Ghaleb, professor of natural history in the medical school at Cairo.

NATURAL PRODUCTIONS OF THE AMAZON VALLEY.

REPORT BY CONSUL KERBEY, OF PARA.

It will be readily understood that practically there is no end to either the abundance or the great variety of valuable natural productions of the Amazonian valley, the wonderful extent of which is but slightly touched.

The flora of Brazil is especially rich in plants producing available textile fibers.

The Baron of Marajo, formerly president of the province of Para, late commissioner from Para to the Paris Exposition of 1889, and now mayor of this city, has published an excellent monograph on the textile fibers displayed at that exposition, and especially those of Brazil, which book the baron has kindly sent to me.

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* Dr. Osman Bey Ghaleb is professor of natural history in the medical school at Cairo.

He mentioned fifty-four distinct species of plants and trees, some of them having many subvarieties, all of which yield valuable textile fibers, and most of which are indigenous to the Amazon valley, all of which grow here and are available for an infinite variety of manufactures, such as cloth, cord, ropes, mats, hats, baskets, etc.

One can not read the list without being profoundly impressed with the immense natural richness of the forests and soil of this valley, and it seems that textile fibers must soon become one of the valuable exports of the valley. At present the only one exported is the piassava, known in commerce as Para grass, or monkey grass. It is not a grass at all, but the vascular fibers of the leaf sheath, or bract, of the urucury palm (*Attalea excelsa*). This is used extensively for ropes, mats, brushes, brooms, etc.

The woods of these forests are also of immense variety, and many of them are very valuable. Some varieties are used as piles and also as horizontal bases beneath the soil for the foundation of heavy stone and brick buildings, and will last for centuries. They are practically indestructible in this climate, where most North American woods will not last six months exposed to the same conditions.

The greatest difficulty which attends lumbering here is the fact that the valuable woods are scattered through the forests at comparatively long intervals. Instead of having homogeneous forests, as are the pineries of North America, on a single acre of ground there may be fifty different varieties or species of trees. As the valuable trees grow solitary, and the forests are jungles, and indefinitely long roads must be made to reach the individual trees, the cost of getting out the logs is immense. At Santarem the most valuable wood for building steam launches grows on the highlands, which there are not very far from the river, only 5 or 6 miles away. The tree is felled, and the trunk is split in the middle, and each half is hewed down to the thickness of a plank, each tree making only two planks; these are then carried by men a mile or two, sometimes to reach a point where they can be loaded upon a cart. In general, the forests are still more inaccessible than at Santarem.

The Bragança Railway, starting from Para and running through the upland forests, has given an opportunity to reach a timber supply for this city which will supply the demand for a short time. But the same difficulty prevails along the line of this railway; each tree must have its own road cut to get out to the railway.

Some of the saw-mills that exist in the Amazon valley are supplied mostly by trees that drift down the current, torn up by the roots by the yearly floods, so that "logging" on the Amazon is quite a different thing from what it is in the pineries of Wisconsin and Michigan, it being done in a canoe in a 4-mile current with a rope and a cross-cut saw.

This will serve to illustrate how almost every industry here is vastly different from other lands. You can not introduce American methods into these industries generally any more than you could use a bob sled for logging on the Amazon.

The gathering of Brazil-nuts is quite an extensive industry during two months of the year, the total exportation being about 8,000,000 hectoliters per year.

Tonquina, or tonka, beans are also exported to a limited extent, as also is balsam of copaiba. Hides and deer-skins are sent to the United States, likewise eiquette feathers, as well as whole birds, especially parrots of different kinds and monkeys of varied accomplishments, the latter two being valued at $5 to $10 each, according to the value set upon the pets by the native owners.

There are known to be rich deposits of gold on some of the tributaries of the Amazon in the highest altitudes, but the long distances and the interventions of the rapids, which interrupt the navigation for part of the year at least, have been a great barrier to their development.

It is asserted that there are also rich coal deposits on the Amazon, but it seems that the wealthy corporations requiring a coal supply have not yet found it advisable to depend on other than the home resource.

JOSEPH O. KERBEY,
Consul.

UNITED STATES CONSULATE,
Para, December 16, 1890.

THE SPANISH MERCHANT MARINE.

REPORT BY CONSUL BOWEN, OF BARCELONA.

STEAMERS.

The number of steamers that are now engaged in trade and that belong to Spain and the dependencies thereof is 418, having a capacity of 410,524 tons and 71,834 horse-power. Of that number, Barcelona is represented by 84, having a capacity of 152,025 tons and 22,054 horse-power; Bilbao is represented by 103, having a capacity of 135,217 tons and 16,145 horse-power.

SAILING VESSELS.

The total number of sailing vessels belonging to Spain and the dependencies thereof is 57,615, having a capacity of 492,151 tons. Of these vessels, 1,258 are of over 50 tons and 56,357 are of less than 50 tons each, and 244 belong to Barcelona, 120 to Bilbao, 123 to Majorca, and 274 to Manila.

HERBERT W. BOWEN,
Consul.

UNITED STATES CONSULATE,
Barcelona, December 2, 1890.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 126.—MARCH, 1891.

EXPORTS FROM HUDDERSFIELD TO THE UNITED STATES.

REPORT BY COMMERCIAL AGENT SMYTH.

PLUSH.

Of the various industries affected by the new tariff, the seal-plush trade is hit the hardest. From $229,587 for the quarter ended June 30 it dropped to $142,729.46 the following quarter, while in the next quarter ended December 31 it shrank to a nominal showing of $12,904.36. Here is a shrinkage of $216,683.38 in the short space of 6 months, representing a decrease in this item alone of nearly 95 per cent.

WORSTEDS.

The worsted trade, which in the June quarter footed up a total of $745,648.80, dropped in the December quarter to $428,616.87, being a decrease of over $317,000, or nearly 43 per cent. The worsted values for the last quarter, compared with those of the preceding, show a falling off of over $173,000, or nearly 30 per cent.

WOOLENS.

Woolens, which started off in the first quarter of the year with a gross value of $77,692.70, jumped up to $245,314.76 the next quarter, dropped to $106,359.30 the following, and still lower in the quarter just closed, the gross values being $98,114.29, a decrease of 60 per cent. as compared with the returns ending June 30.

CHEMICALS.

The chemical exports present a better showing, the total for the year being $111,640.98. These exports largely consist of dyes and other preparations for use in the textile industries of the United States.

Cards and card clothing form another item of export which have a similar connection with American industries, and their increase may be viewed with some degree of satisfaction as an indication that those industries are correspondingly prosperous.

MOHAIR, ETC.

The spaces set apart for various mixtures of mohair, cotton, etc., remain unfilled in the December columns. The item of "thread waste," which amounted to $4,555.75 in the September quarter, also disappears. Mohair pure and simple, which seems to have made a poor struggle for export during the year, also vanished in the December quarter.

WOOL.

It will be observed that wool took a regular tumble in the last quarter, falling from $36,745.93 in the preceding quarter ended September 30 to $7,280.13 for the last quarter ended December 31. The quality of wool shipped from here to the United States is what is known as a pure colonial or Australian, commonly called "Sydney." It commands the highest price in the London market, whither it finds its way from the colonies and the hands of English buyers, who are out there expressly for that purpose. London is the great central depot or distributing point, whence it finds its way to the markets of the manufacturing districts, where it is used up in the finer class of worsted and worsted goods.

THE WOOL MARKET.

As an example of the multifarious ways in which the influence of the tariff bill is asserting itself, it may be stated that the moment its provisions went into effect in this section the wool market fell flat in anticipation of serious depression in the worsted and woolen trades. The spinners of woolen and worsted yarns, of whom there are a great many, with very extensive mills and large pay rolls, felt the shock, too, and soon joined the excited crowds at Bradford and elsewhere to wonder how such things could be. The dyers who dyed these yarns and cloths and the manufacturers who supplied them with the material soon realized that the tariff had hit them, too, and so they fell in with the others. The whole took the form of a demand for a zollverein.

But the strange feature of this wool business is presented in the roundabout way in which the American consumer obtains it. This has reference more particularly to the $37,000 worth of wool which was exported from this district during the year 1890, not a pound of which was British. It is bought in Australia, shipped to London, put on the markets there, purchased, and put on the market here, where it is again purchased by the American consumer and then dispatched to the United States, to be used in the manufacture of fine fabrics. With an increased demand for those fine American fabrics, there must be a corresponding demand for this fine colonial wool, which seems to have the exclusive call as a basis of their manufacture; and the question naturally arises, will it not pay the American consumer, who must have this wool in preference to his own, to adopt a new system of buying whereby he can get closer to first hands and first prices? The London wool market is not without its intrigues and manipulations, and the provincial buyers have generally to pay well for these interesting proceedings, and so does the man who comes after him—the American consumer—and double at that. At the present, however, it looks as though we have here a singular example of the force of that Irish saw, "the longest way around is the shortest way home," particularly to the American who buys Australian wool in the English provinces. It may be stated here that southern and western Australia exported to this country in 1889 no less than $3,750,000 worth of this "pure colonial."

BRICKS.

The brick trade, which is an interesting item to some of the western cities, notably St. Louis and Chicago, justly famous for the perfection to which the manufacture of all kinds of brick and terra cotta work has been brought by their local concerns, is represented by a gross total of $31,176.16 exports for the year. The bricks are mostly of the glazed species intended for interior decoration or linings for halls, lavatories, baths, etc. There are some fire brick of an exceptionally good quality, whether from the adaptable qualities of the native clay or the peculiar process of manufacture I am unable to say. It is a fact, however, that the product of an establishment on the outskirts of Huddersfield finds a market all over the continent of Europe. Two members of the firm (Brooke & Sons) who recently visited the United States with the Iron and Steel Institute are quite enthusiastic over the splendid advantages which America offers to a business of this character. They believe there would be no difficulty whatever in finding a suitable location and the requisite quality of clay, and, these found, the process would be quickly furnished with the plant and the machinery. The American purchaser of this class of exports has to pay nearly twice as much for freight and transportation expenses as his goods cost him. The freight alone on 11,000 of these bricks from Huddersfield to Liverpool, with incidental costs for handling, etc., amounts to nearly as much as that involved in the transfer from Liverpool to Chicago or St. Louis. Such charges will appear exorbitant when it is pointed out that the distance between Huddersfield and Liverpool can be traversed by an ordinary express train in an hour and forty minutes, regular schedule time. It is quite natural, therefore, to find an extensive industry like this, which has to cope with the disadvantages of a railroad pool, high rates, and dictation, turning its eyes to the United States, with its rapid strides in every department of trade, particularly the building trade, to seek a permanent location for the manufacture and sale of its products.

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, January, 1891.

THE COMMERCIAL SITUATION IN YORKSHIRE.

REPORT BY COMMERCIAL AGENT SMYTH, OF HUDDERSFIELD.

A general survey of the commercial situation here is calculated to impress the observer with the severity of the check which the new tariff has imposed on British trade. Yorkshire feels it keenly, for within its borders are located some of the leading industries of the nation. These industries are brought under the ban of its provisions, and the result is clearly set forth in the general statement of exports for the year. Never in the history of British trade has a commercial policy been enacted which has operated so sharply against its interests, and assuredly never has there been an act of legislation to arouse such intense and widespread hostility among British trades. It operates most severely, perhaps, with the export trade of Bradford. It had been in operation but a couple of weeks when its extensive trade in stuffs and cheap woolens vanished like Aladdin's castle. Its seal plush trade went the same way, and a general conflict was immediately precipitated between the employers and their workmen on the question of reduced wages. The Listers' plush concern at Manningham, near Bradford, is now closed against its 4,000 hands, who are out on one of the most notable strikes of the year. Industrial interests at Sheffield are in a very disturbed state. The cutlery trade is badly shaken up, and the reduction move is on there with the usual result. Some of the largest mills in this district are practically running, to make a show of activity, on short time, while a number of the smaller concerns are either shut down altogether or contemplating retirement from business.

There is a great deal of hardship among the working classes throughout the manufacturing districts of Yorkshire, consequent on the want of employment and the necessary means to counteract the severity of the winter, which is said to be the coldest in 40 years. The banks, determined to be on the safe side, are tightening up their purse strings. Two heavy failures are reported from the Leeds district, both in the woolen trade. Commercial disasters like these, in presence of a bleak and barren prospect, are not calculated to relieve the situation of its extremely serious and discouraging aspect.

It must be remembered that this depression has usurped the busiest season of the year. Merchants and manufacturers who meet here on market days to transact business and exchange views regard the situation very gravely. They make no effort whatever to conceal the fact that the tariff bill is responsible for the deplorable condition of the market. The press, of course, is still screeching and howling for relief or revenge or retaliation, anything at all, even a zollverein, to get even with "the Americans." One of the leading Yorkshire dailies, published at Leeds, takes up the question for the Bradford and Sheffield people. It sneers at "American shoddy" as a soothing reference to the pure woolens of Bradford and makes a vindictive attack on the American table knife by way of a compliment to the Sheffield manufacture. It is too much the fashion for English editors at the present moment to attack everything American, as well as to charge the McKinley act with responsibility for every known form of disturbance—social, political, and commercial—which has taken place since it went into operation.

THE TARIFF AT BRADFORD AND SHEFFIELD.

[From the Yorkshire Post.]

So far as can be judged at a distance, the trouble which has arisen between employers and work people at Bradford and at Sheffield as the first fruits of the McKinley tariff ought not to be more than a momentary difference. At Bradford the operatives at the Manningham mills, who have to do with the goods prepared for the American market, are asked to submit to a reduction of wages which will still leave them better paid than the work people of any other firm in the town. We do not know what Messrs. Listers' operatives have to say for their action in striking, but most common-sense people will want to know why they should be asked to sympathize with them in the face of an admitted fact like that. If the effect of the McKinley tariff were to inflict nowhere greater hardship than it appears to inflict upon a few hundred hands in the Manningham mills, it would be an agreeable discovery for most of us. That Messrs. Listers' trade with the United States has been cut to pieces by the new tariff may be gathered from the returns which we published a week ago from the United States consul at Bradford, and which showed that the imports of silk seals, plushes, etc., had fallen from £28,363 in December, 1889, to £5,289 in December, 1890. This may be an exceptional record, due to more than one cause; but it is, at all events, enough to justify Messrs. Listers in the statement that their American trade has been heavily injured by the new tariff, and, if the operatives suffer no severer penalty than that of being paid better wages than the employés at any other mill in Bradford, they will still have much on which to congratulate themselves. As to the Sheffield dispute, that has as yet scarcely advanced to a point at which it is possible to form a safe conclusion. Messrs. George Wostenholm & Co., whose trade mainly consists of pocket cutlery manufactured for the American market, have given their forgers, grinders, and cutlers notice of a reduction of 5 per cent. in wages, in view of the increased tariff. It remains to be seen, as we have said, what real relation this reduction bears to the wages of the men or to the actual requirements of competition. But we shall be surprised if the slight extra duty imposed on pocket cutlery by the McKinley tariff should have any serious effect upon the class of trade done by Messrs. Wostenholm & Co. Travelers in the United States testify that, except where imported wares are found, American tables are furnished with the worst cutlery in the world. In the commoner classes of knives it is long since Sheffield houses had a chance in the United States; but Americans know first-rate cutlery when they see it, even if they can not make it, and we suspect that the class of people who now use Sheffield cutlery will not be coerced into patronizing the native knife—a most fearful and wonderful weapon—by the extortion of another 10 or 15 per cent.

The same writer goes on in an article of recent date to discuss the same subject and does it as follows:

The history and application of the McKinley tariff is, in other respects, an interesting study. In more than one way it illustrates with quite convincing power the utter rottenness of the American political system. Among the causes which led to the Republican defeat of 1890 were the undignified squabbles which arose as to the division of the spoils of office, the extraordinary fecundity of the then Administration in jobs bad enough to shock even the seasoned susceptibilities of Americans, and the way in which the people were taxed to provide pensions for partisans. Here in England we do not always realize the beauties of American rule, but the Federal pension list charmingly illustrates one side of it. The money spent on that list in 1889 was nearly equal to the entire sum demanded by the whole of our civil service, and even exceeded the complete expenditure of the Federal Government in the year 1860. Again, the way in which the States are paying off their national debt sometimes calls down unpleasant comparisons with ourselves. But a portion of that debt was created for no other purpose than to provide opportunities for capitalists. Even now the payment of the debt is anticipated at extravagant terms for precisely the same reason; and, to find money to fill the pockets of the capitalists in this fashion, the people are taxed to the very last extremity. All this, let us observe, happens in a land which begs heaven and earth to remark its freedom, which derides the more orderly progress of the unenlightened Britisher, and believes that wisdom is hardly found outside the United States. One of the worst features about the policy of Mr. Gladstone is that it acknowledges and condones some of the evil characteristics of American political life. The artisan who is invited to support that policy can hardly do better than mark the personal and political dishonor, the moral chaos, and the commercial peril into which such methods have already driven the United States.

TRADE AND THE LABOR MARKET.

The state of the labor market is so closely allied with trade matters in general that a report on the subject furnished to the Board of Trade Journal will not be out of place here. It is as follows:

WORK INTERRUPTED.

It is not possible this month, in presenting any remarks on the state of the skilled labor market, to assume for a moment that they contain any adequate representation of the condition of the general labor interest of the Kingdom. In an ordinary way it may generally be taken for granted that, when all the skilled trades sending in returns to the board of trade are prosperous, the same will hold good of the general industries of the nation. This month, however, special circumstances prevent any such assumption. This is the month when, even in respect to indoor trades, which may be carried on without regard to the weather, many special causes of want of work combine to throw men temporarily out of employment. Of these, holiday suspensions form an important element even in the best of times. Now, however, in addition, we have had 6 weeks of weather so severe that even indoor industries are being considerably affected by the stoppage of their supplies of raw material, the means of transport being interrupted. But it is in the building trades and other outside occupations in which this prolonged severity of the weather has been most keenly felt, and in these a vast amount of unskilled labor is concerned of which no account can be definitely taken, as no returns can be supplied in respect to it. Any attempt to estimate the great numbers of men thus out of work and unprovided for by trade unions or other agencies of self-help would be vain, as there is absolutely no available material likely to form a reliable basis for such a speculation. It is therefore to be understood that this memorandum refers only to the comparatively limited number of skilled trades which keep account of the monthly number of their out-of-work members and make returns of the same to the board of trade.

STRIKES.

The total number of strikes fortunately shows no tendency to increase, although the great railway strikes in Scotland affect, directly and indirectly, a very large number of workers. The total of strikes noted during the past month was sixty, one less than in the previous month, but a considerable decrease on the numbers of some previous months. Of these, fifteen were in the cotton trade, and these resulted chiefly from a difficulty of settling the details in individual cases and the general advance of 5 per cent. obtained by the action of the organizations of the operatives. There were six in the tin plate trade and five each in the iron and steel, engineering, coal, and woolen trades; in dock labor there were four, the remainder being distributed among miscellaneous trades.

DECREASED EMPLOYMENT.

Twenty-two trade unions of skilled operatives have sent in returns as to the state of their respective industries. A few show a slight improvement, but the majority show a marked falling off, consequent on the causes already referred to. The total membership of these societies is stated at 239,960, and of these 7,302 are returned as unemployed. This is a proportion of 3.05 per cent., as against 2.04 per cent. in the month preceding. As compared with the corresponding period of previous years, it may be said that in January, 1890, the percentage of men out of work in these trades was 1.7; in January, 1889, 3.3; January, 1888, 6.9; and in January, 1887, 8.7. The trades showing most improvement are the cotton-spinning and shipbuilding trades, the proportion of those out of work in the last-named industry having improved during the month from 5.76 per cent. to 4.27 per cent. Most of the other trades show worse results, but in no case can the change be pronounced serious when all things are considered. In the building trades, in many districts, there has been an almost entire stoppage of work from severe weather.

THE HUDDERSFIELD BOARD OF TRADE.

Unlike commercial bodies in other English cities where the local industries are affected by the tariff bill, the Huddersfield Board of Trade maintained a dignified attitude towards the United States. It waited until the year 1890 was well laid away, when the issue had been squarely made up and the result plainly before them, and then had its say. It refused to be drawn into the noisy ways of Bradford and Sheffield, preferring to operate on a line of its own, without committing itself in manifestoes and resolutions that might be all useless, if not injurious. When the time for the annual dinner was at hand, the members met, had their say about trade and the tariff in an easy, old-fashioned, sensible way, and then promptly adjourned to the more congenial atmosphere of the festive board. It is said this body is not given to frequent violent moves, but that when it does make one—at the end of the year, for example, in presence of a good dinner—something is heard to drop. The president, Mr. J. H. Sykes, is a large manufacturer and a very intelligent and clever gentleman. He is capable of discussing the tariff in a sensible, manly way, and equally capable of viewing its effect here with a complaisance that is strongly in contrast with the spirit displayed in Bradford and Sheffield.

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, January, 1891.

MEXICAN ORE SHIPMENTS TO THE UNITED STATES.

REPORT BY CONSUL SMITH, OF NOGALES.

I have the honor to inclose herewith a report of ores passing this consulate during the year 1890, showing the amount and value for each month in the year. It will be seen that the month in which the new tariff bill became a law (October) was in amount the third largest and in value the second largest of the year. Usually during the month of June those interested in mining aim to clean up everything for the year, which accounts for that month being the largest. The months of July and August are usually quite small, as the feed for freight animals is very short, and consequently shipping is almost suspended. As a general thing, the ore is shipped from the mines to the railroad on pack mules, the distances ranging from 15 to 100 miles.

About 4 per cent. of the value of these ores was for lead and copper contained therein, the balance being gold and silver, chiefly the latter.

Quite extensive arrangements are being made for large shipments of ores during this year, and it is presumed they will more than double those of 1890. Shippers have made considerable complaint to me of what they consider exorbitant charges for sampling and assaying and the taking of excessive samples by the United States authorities. It would seem that this matter should be arranged so as to limit the amount to be taken as samples to the actual necessities, for it will be seen that the average of the ores last year was upwards of $219 per ton.

Table showing the quantity and value of ores passing Nogales consulate from Sonora, Mexico, during the yedr enaed December 31, 1890.

Months.	Quantity.	Invoice value.
	Pounds.	
January	836,115	$87,637
February	771,000	87,796
March	889,800	88,492
Total	2,496,915	263.925
April	1,259,573	118,880
May	770,000	70,096
June	1,409,800	159,899
Total	3,439,337	348,875
July	616,769	60,275
August	155,000	22,283
September	1,027,652	123,453
Total	1,799,421	206,011
October	1,195,700	149,588
November	768,340	90,782
December	974,770	110,384
Total	2,938,810	350,754
Grand total	10,674,519	*1,169,565

*The average value was 10.9556 cents per pound.

DELOS H. SMITH,
Consul.

UNITED STATES CONSULATE,
Nogales, January 9, 1891.

ITALIAN EMIGRATION.

REPORT BY VICE-CONSUL-GENERAL WOOD, OF ROME.

From an official statement giving the result of Italian emigration during the 6 months ended July 30, 1890, it appears that the total number of emigrants was 138,423, an increase of 14,638 over the first 6 months of 1889.

The following tables show the total number of emigrants from the various districts of the Kingdom:

Table showing the emigration from Italy during the period of 1889–'90.

District.	Six months ended June 30, 1889.			Six months ended June 30, 1890.		
	Permanent.	Temporary.	Total.	Permanent.	Temporary.	Total.
Piedmont	4,603	8,488	13,091	5,890	8,838	14,728
Liguria	2,037	338	2,375	2,043	299	2,342
Lombardy	5,811	7,575	13,386	5,878	8,049	13,927
Venetia	10,604	49,330	59,934	2,103	56,151	58,254
Emilia	2,653	1,822	4,475	1,174	1,234	2,408
Tuscany	1,966	1,836	3,802	2,275	1,888	4,162
Marches	1,206	121	1,327	602	85	687
Umbria	26	9	35	216	36	252
Latium (Rome)	16	4	20	15	12	27
Abruzzo and Molise	4,033	166	4,199	6,708	757	7,465
Campania	6,237	565	6,802	14,510	1,023	15,563
Apulia	548	642	1,190	604	1,013	1,617
Basilicata	3,374	....	3,374	4,995	....	4,995
Calabria	5,661	9	5,670	7,030	430	7,460
Sicily	2,335	1,728	4,063	2,494	1,979	4,473
Sardinia	....	42	42	....	62	62
Total	51,110	72,675	123,785	56,567	81,856	138,423

District.	Difference in 1890.		
	Permanent.	Temporary.	Total.
Piedmont	+1,287	+ 350	+ 1,637
Liguria	+ 6	— 39	— 33
Lombardy	+ 67	+ 474	+ 541
Venetia	+8,501	+6,821	— 1,680
Emilia	+1,479	— 588	— 2,067
Tuscany	+ 309	+ 52	+ 361
Marches	+ 604	— 36	— 640
Umbria	+ 190	+ 27	+ 217
Latium (Rome)	+ 1	+ 8	+ 7
Abruzzo and Molise	+2,675	+ 591	+ 3,266
Campania	+8,303	+ 458	+ 8,761
Apulia	+ 56	+ 371	+ 427
Basilicata	+1,621	....	+ 1,621
Calabria	+1,369	+ 421	+ 1,790
Sicily	+ 159	+ 251	+ 450
Sardinia	....	— 20	+ 20
Total	+5,457	+9,181	+14,638

Table showing number of emigrants in each year ended December 31, from 1876 to 1889, inclusive.

Year.	Permanent.	Temporary.	Total.
1876	19,756	89,015	108,776
1877	21,087	78,126	99,213
1878	18,535	77,733	96,268
1879	40,824	79,007	119,831
1880	37,934	81,967	119,901
1881	41,607	94,225	135,832
1882	65,748	95,814	161,562
1883	68,416	100,685	169,101
1884	58,049	88,968	147,017
1885	77,029	80,164	157,193
1886	85,355	82,474	167,829
1887	127,748	87,917	215,665
1888	195,993	94,743	290,736
1889	113,093	105,319	218,412

CHARLES M. WOOD,
Vice-Consul-General.

UNITED STATES CONSULATE,
Rome, October 20, 1890.

MEXICAN ORE SHIPMENTS TO GERMANY.

REPORT BY CONSUL FECHET, OF PIEDRAS NEGRAS.

I have the honor to inform the Department that there were shipped from this port on December 19, under consular seals and manifests, in bond in transit to the port of New Orleans, La., for shipment to Hamburg, Germany, seven cars of silver lead raw ores, aggregating 115,738 tons and $19,380.27 in value.

This ore averaged, as per manifests, 174.49 ounces of silver and only 3 per cent. of lead per ton. The duty under United States tariff laws on the 6,944 pounds of metallic lead contained in the entire tonnage would have been, at 1½ cents per pound, only $104.16, or less than $1 per ton. This would seem to show that this shipment of raw ores was not made to Germany by reason of the duty under our tariff. I am reliably informed that a company has been formed in Hamburg, Germany, to purchase raw ores in Mexico and ship to Hamburg for reduction, and this is the initial shipment.

Through rates on ores to Hamburg are $14.80 per ton from Mapimi station on the Mexican Central Railroad, in the State of Durango. The route is all rail to New Orleans and from thence by steamers.

From the same point to Kansas City, Mo., rates are $11.60 per ton, or, adding the duty of 90 cents per ton for 3 per cent. of lead had this shipment gone to Kansas City, we have $12.50 per ton as compared with $14.80 to Hamburg.

These figures are so very much in favor of shipments to the United States that it is plain we must search outside of the United States tariff laws to discover why ores should be shipped to Germany that were formerly shipped to the United States for reduction.

This cause, as definitely as can be ascertained, and the one assigned by the shippers, is the prohibition by the Treasury Department of the United States against the mixing of ores from different mines to form one lot for shipment and export.

Ores found to be mixtures pay a duty of 1½ cents per pound, or $30 per ton. Ore-buyers claim such a restriction is prohibitive on the output of small mines that must be aggregated to make up a shipment.

As this is the first shipment by rail routes to the United States of crude ores from Mexico to Europe, passing through the United States in bond, it has seemed of sufficient commercial importance to report in detail to the Department.

EUGENE O. FECHET,
Consul.

UNITED STATES CONSULATE,
Piedras Negras, December 24, 1890.

OPENING FOR AMERICAN GOODS IN BAHIA.

REPORT BY CONSUL BURKE.

There are some branches of manufactured goods imported to this city, chiefly from Europe, that our manufacturers might seek to obtain, might push for, and, if able to compete with the foreign manufacturers, that is, the European, secure the largest share of the trade. Perhaps it may not be out of place to mention the principal ones: Umbrellas and parasols are used by rich and poor in sun and rain, all imported; ladies' and gentlemen's fine shoes, imported. Cotton and woolen goods for household use and wear constitute a very large share of the importations. Crockery, glassware, lamps, hardware, perfumes, silks, fancy dressgoods, and gentlemen's furnishing goods are in demand at all times. In these articles there is a large field for our manufacturers. European manufacturers of these articles have the field now. In canned fruits and meats there is a chance for our manufacturers to develop a business also. These are some of the principal lines of trade now going to Europe that we ought to have.

I will make a list of the principal dealers in these different lines of trade and forward to some New York journal of export, that our manufacturers may know with whom to correspond if they wish.

DAVID N. BURKE,
Consul.

UNITED STATES CONSULATE,
Bahia, November 25, 1890.

RAILWAY EXTENSION IN SOUTH AFRICA.

REPORT BY CONSUL HOLLIS, OF CAPE TOWN.

December, 1890, will be memorable in the annals of South Africa for three important railway extensions, either of which 5 years ago would have been considered on its completion sufficient ground for complacent gratulation.

These three important extensions comprise the completion of the lines from Simon's Town to Cape Town, by means of which the naval station of Cape Colony is brought into close connection with the capital, augmenting the strength of the defenses of the colony to no small degree. This line is 22 miles in length and passes through several beautiful suburban towns which line its whole length.

The next important extension is that of the main line (the northern) into the interior, which a little more than a year ago terminated at Kimberley, the center of the famous diamond region, 647 miles from Cape Town, now has been opened to Vryburg, 126 miles distant from Kimberley, and is being pushed with diligence to Mafeking, a further distance of 100 miles. By this extension the time occupied by coach in going to the gold fields of the Transvaal, *i. e.*, Johannesburg, has been reduced from 54 hours (from Kimberley to Johannesburg) to 32 hours (from Vryburg to Johannesburg).

The advent of the British South Africa Company has been the controlling force in bringing about the successful carrying out of this important enterprise. The character and scope of this gigantic corporation has become so world renowned that I need say nothing of its realty, except to say in general terms that it has taken possession of all the British territory between the German territory in the north and the Portuguese territory in the east, and from the northern borders of the Transvaal to the Zambesi, an empire within an empire.

Under the leadership of a gentleman whose name is synonymous with sagacity, clear insight, and far-reaching vision, this company, guarded by its own troops, has recently carried its line of roadway to Mount Hampden, 800 miles from its former outpost, Mafeking, at which station a strong fortification has been erected, called Fort Salisbury, with other fortifications at intervals on the line of march, which closely follows the boundary line of the Matebeland territory, the home of the famous chief Lobengula.

This railway, following the road thus outlined, is being built by the company to be taken over by the Government of Cape Colony, at least that portion through Bechuanaland.

From personal letters I have received from American gentlemen who accompanied the expedition, together with the reports of correspondents of newspapers and the reports of officials, it would appear that the new territory thus opened is very rich in gold-bearing reefs, and that the land is fertile and comparatively well wooded and watered and well adapted to both agriculture and grazing, and with a generally good climate.

My previous reports have shown the then disinclination of the people of the Transvaal to admit of the extension of the colonial system of railways through that country. By the opening of this northern railway a flank movement, as it were, was consummated, by reason of which all objections to the former course were rendered untenable. Thus this month sees the opening of the colonial system from Colesburg to Bloemfontein (144 miles), giving an all-rail route from the latter place to Port Elizabeth (450 miles) and also to Cape Town, which has been celebrated this week with every evidence of unison and mutual good feeling.

A further extension from the capital of the Orange Free State to the Vaal River has been agreed to by the colony, and the Transvaal Government has also agreed to the extension of the railway to the gold fields of Johannesburg. A brief examination of the map will show what an immense territory is now opened up north of the Transvaal, which will be occupied in the near future by those who will understand how to turn to advantage the riches nature has so lavished in this part of South Africa.

My previous report will show that, through good and evil report, my faith in the future of the gold fields of this country has never wavered; and the time will speedily arrive when, with a lessened cost of reduction of gold-bearing ore and economy of working established, the mines of this country will not only be profitable, but will astonish the world with the amounts of their outputs.

Given the incorporation of Swazieland by the Transvaal and Zululand by the colony of Natal, and other features which now cause more or less friction will speedily right themselves, and the onward march in prosperity of the various countries will be assured.

Following will be found the memorandum of the company, which will no doubt be read with interest. The only criticism I have to offer is on section 10—flotation. With the immense field of operation under the dominion of the company, it would seem that the terms offered to prospectors are not sufficiently generous. Considering the large number of mining companies that will surely be established in the territory—and prospecting has been carried far enough to put this beyond the reach of doubt—it would seem as if the tax on the claim-holder should have been established at one-half of that proposed.

Besides the territory already mentioned as the property of the company, a further treaty has been made with a native chief, by which it will come into possession of more than 20,000 square miles, provided the treaty arrangements between England and Portugal do not nullify the provisions of this treaty with the native ruler.

It having been my custom to distribute among the members of the Government railway staff the various magazines and papers coming to the consulate treating of railway matters, I am pleased to say that, conservative as this colony is said to be in its adoption of modern ideas, the Government has ordered from the United States twenty goods (freight) cars and two locomotives. Appreciating, as I do, very highly the broad views of management held by the railway staff, I have no doubt the excellence of our cars will meet with ready appreciation.

The British South Africa Company.

MEMORANDUM OF THE TERMS AND CONDITIONS UPON WHICH PERSONS ARE PERMITTED TO PROSPECT FOR MINERALS AND METALS IN MASHONALAND.

Prospecting licenses.

(1) Any person may take out a license on binding himself in writing to obey the laws of the company and to assist in the defense and maintenance of law and order, if called upon to do so by the company, such license to bear a stamp of the value of 1*s.*

Right of prospecting holders to peg off claims.

(2) Every license-holder is free to peg off one alluvial claim and ten quartz reef claims in block. When the claims have been marked off, the same shall be registered, and the license-holder shall receive a certificate of registration, such certificate to bear a stamp of the value of half a crown.

Size of claim.

(3) Alluvial claims are in extent 150 by 150 feet. Quartz reef claims are in extent 150 feet in the direction of the reef and 400 feet broad. The claim-holder may follow the reef in all its dips, spurs, angles, and variations.

Terms on which quartz reef claims may be held.

(4) Every registered quartz reef claim is to be held by the prospector on joint account in equal shares with the company, and every transfer, hypothecation, or lien of his interest in such claims is subject to the rights of the company.

Registration of alluvial claims.

(5) Certificates of registration of an alluvial claim or portion of a claim in any alluvial digging are to be covered by a stamp of £1 for each month for which such claim or portion of claim is registered, payable in advance. The company, however, claims no rights in respect to gold won from alluvial claims.

Discoveries of alluvial diggings.

(6) The discoverer of an alluvial digging distant not less than 10 miles from any known alluvial digging shall have the right to peg off two alluvial claims in addition to his other rights.

Work to be done on claims.

(7) Every digger shall, within 4 months from the registration of the block of claims, under penalty of forfeiture of his claim license, sink upon his block of quartz reef claims either a shaft of a depth of 30 feet in the reef or a shaft of at least 30 feet outside the reef, with a crosscut through the reef.

Certificate of inspection.

(8) So soon as the claim-holder has done the required amount of work and has given evidence that he has opened up a payable reef, he shall receive an inspection certificate to the effect that the required work has been done, such certificate to bear a stamp of the value of 15*s.*

Payment of claim license.

(9) Prior to flotation the claim-holder shall pay no license. After flotation the license shall be at the rate of 10*s*. per claim per month.

Flotation.

(10) On claims ascertained to be payable, the company have the right to float them into either a joint stock company or into a syndicate. The company shall therefore, within a reasonable time, either make a proposal or decline to do so. If the proposal is accepted by the claim-holder, he shall, on flotation, be entitled to half the vendor's script in the shares of the company so floated. If the claim-holder is not satisfied with the company's proposals, he has the right within 1 year to prove to the company that he is in a position to float on better terms, and he shall, on the flotation of the claims, give the company half of the vendor's script.

Pegging out of additional claims.

(11) Any claim-holder shall be at liberty to peg out a fresh block of ten claims—

(*a*) When he shall have given notice of abandonment of his existing block of ten claims.

(*b*) When he has received his inspection certificate from the mining commissioner.

Agreement.

(12) An agreement binding prospectors to abide by the laws of the company, under forfeiture of rights, is to be signed by all the prospectors either at Kimberley or Tuli.

E. RUTHERFOORD HARRIS,
Secretary.

ITINERARY OF ROUTE.

Mafeking to—	Miles.
Ramousta (telegraph station)	80
Palla Camp (telegraph station), junction of Notawa and Crocodile Rivers	200
Elebe, on the Lostani River	280
Macloutsie Camp and Post, Macloutsie River	320
Tuli Camp and Post, Tuli and Shashi Rivers	370
Victoria Camp and Post, 35 miles north of Lunde River	600
Chester Camp and Post, near Mount Wedza	750
Fort Salisbury, 8 miles northeast of Mount Hampden	800

GEORGE F. HOLLIS.
Consul.

UNITED STATES CONSULATE,
Cape Town, December 24, 1890.

ZURICH FACTORY OPERATIVES.

REPORT BY CONSUL CATLIN.

An interesting insight into the system and thoroughness with which the laws pertaining to hours of factory labor are administered here is furnished by a recently published statement in the official journal of the canton of Zurich, showing the number and nature of permits issued for working overtime during the year 1890. Seventy-nine such permits were issued in all, two of which, however, should be left out of consideration, inasmuch as they did not apply collectively to the operatives in the cotton mill to which they were issued, but only to a limited number of carpenters employed on Sundays in laying a new floor in one of the workrooms.

Of the other seventy-seven permits, one was issued in January, ten in February, ten in March, six in April, five in May, three in June, two in July, ten in August, five in September, five in October, eleven in November, and nine in December. In one permit three separate establishments were included, and in each of three other permits two establishments belonging to the same firm. The grounds on which the permits were issued are various. Twenty-two of them are based on "heavy orders, short delivery, pressing commands, behindhand with the work, etc." In eight other cases the ground for haste is more precisely stated, viz, "military supplies, requirements of railroad traffic, printing time-tables, a bulletin to be issued, work for securing the national museum."

Thirty-two permits had to be issued in consequence of interruptions of various natures in the factory work; ten of these, for instance, were owing to "unforeseen interruption" (probably the influenza epidemic), and mostly in cotton mills, four were on account of construction of races, six for want of water, nine for repairs or additions, two for reorganization of work, and one for no precise reason stated.

In three instances the permits for extra working hours in cotton weaving and spinning mills were based on changes in the market. Unfortunately for the completeness of the report, it does not state by how much the seventy-nine permits in question augmented during the year the aggregate working time of all the operatives in the canton, both collectively and per capita. This lack does not, however, affect the main fact that factory proprietors are here held to a strict accountability in regard to the number of hours' work daily performed by each and every one of their employés.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Zurich, January 12, 1891.

THE FOREIGN TRADE OF ENGLAND.

REPORT BY COMMERCIAL AGENT SMYTH, OF HUDDERSFIELD.

In my report of July 28 I called the attention of the Department to the universal interest aroused in England by the pan-American agitation, and cited an expression of opinion by one of the leading journals of the country on the ultimate object in view and its relative bearing on British trade. I propose now to show, for the benefit of American manufacturers and producers, that there is good, substantial ground for the interest thus excited, for there is a volume of trade to be protected of immense proportions.

The returns for the year 1889, giving the import and export trade of the country, have only recently been published with a degree of completeness and accuracy that enables one to judge results correctly. I find, on examination of these statistics, that the various countries included in the reciprocity scheme imported from England that year a general assortment of merchandise products, etc., valued at the enormous sum of $236,323,366. Let us see how this was apportioned.

Table showing the value of exports from England during 1889.

Countries.	Value.	Countries.	Value.
Spain and possessions (notably Cuba)	$47,331,913	Chile	$15,450,000
Mexico	7,894,786	Brazil	33,000,000
Central America	5,088,667	Uruguay	12,000,000
United States of Colombia	6,000,000	Argentine Republic	53,000,000
Venezuela	4,000,000	British North America (Canada)	46,000,000
Ecuador	1,353,000	Total	236,323,336
Peru	5,225,000		

British North America is included on the ground that a commercial union with these countries would be the practical application of the reciprocity idea. It must be remembered that the foregoing exhibit does not by any means represent the total imports of the countries named. It is simply a statement of their trade in approximate values, or round numbers, with Great Britain alone. Now let us see how the various articles of British produce and manufacture figure in this statement, and let American manufacturers and producers compare notes:

Articles.	Value.	Articles.	Value.
Alkali (chiefly soda)	$7,500,000	Hats	$6,000,000
Apparel (ready-made)	24,000,000	Implements and tools of industry	6,200,000
Arms, ammunition, etc	8,500,000	Leather:	
Bags and sacks (empty)	3,800,000	Tanned and unwrought	6,450,000
Beer and ale	7,000,000	Boots	8,900,000
Biscuits and bread	2,800,000	Linen manufactures	25,000,000
Books, printed	6,300,000	Jute manufactures (including yarn)	16,000,000
India rubber manufactures	5,500,000	Manures (including chemical manures)	10,000,000
Railway carriages, tracks, etc	9,750,000	Medicines, drugs, etc	4,500,000
Cement	6,000,000	Oilseed	7,300,000
Chemicals and dyestuffs	13,700,000	Painters' colors and materials	7,650,000
Coal	73,000,000	Paper and stationery	13,500,000
Naphtha and similar products	6,000,000	Pickles, vinegar, confectionery, etc	6,500,000
Corn, grain, and meal	2,000,000	Skins and furs of all sorts	4,800,000
Cotton yarn	57,000,000	Soap	2,500,000
Cotton manufactures:		Spirits	6,000,000
White or plain	160,000,000	Sugar (refined)	3,000,000
Printed, etc	95,000,000	Steam-engines	19,000,000
Lace, etc	9,000,000	Machinery not steam-engines	57,000,000
Stockings, etc	1,900,000	Other iron and steam manufactures (including raw material).	145,000,000
Sewing	13,000,000		
Hosiery and small wares	11,600,000	Copper, brass, lead, tin, zinc, etc	25,000,000
Earthen and china ware	11,300,000	Telegraph wires and apparatus	5,000,000
Furniture, cabinet, and upholstery	4,200,000	Silk manufactures, yarn, etc	15,000,000
Herrings and other fish	8,700,000	Wool (sheep and lambs')	4,850,000
Glass (plate, flint, bottles, etc.)	5,700,000	Woolen and worsted yarn	21,000,000
Haberdashery	11,000,000	Woolen manufactures	104,000,000
Hardware and cutlery	15,000,000		

The foregoing list represents the various articles exported from Great Britain and Ireland to all countries during the year 1889 and their gross value. From this list the South American countries, with Spain and Canada, have drawn largely for their supplies, the amount being represented by the total already given.

There are very few items in the exhibit which can not be supplied by American manufacturers and producers. It must be remembered that the foundation of this extensive commerce was laid at a time when our native industries were struggling for a foothold in the great contest for trade, and tnat they were unknown or completely ignored by our neighbors. Now that they are firmly established, it is only necessary to convince our South American friends that we are in the field for their business. A glance at the list will convince any American who is acquainted with the wonderful manufacturing and producing energies of the country that we are to-day in splendid condition to capture our full share of this valuable trade. Look at the items of ready-made clothing, cotton manufactures, chemicals, steam-engines, machinery, raw material, copper, brass, lead, zinc, haberdashery, hats, boots, manures, paper and stationery, pickles, vinegar, sugar, and so on, from the alkalies down, and then wonder how it is we have permitted such a splendid trade to gravitate from our shores so long.

It is idle to ignore the fact that the English press regards with serious apprehension the progress of a movement that threatens to interfere somewhat with the trade monopoly in South America. England can not very well afford to lose any portion of the export trade in the face of returns which show the balance of trade largely against her in 1888 and 1889. In the former year her imports were £387,635,743, while her exports amounted to £297,885,236. In 1889 her imports amounted to £427,637,595, while her exports were £314,705,741. In the year 1888 we see the balance of trade against her by £89,750,507, or a fraction over $433,000,000. In 1889, while there was an increase of over $200,000,000 in the volume of business, the balance of trade against her had crept up to the colossal sum of £112,931,854, or nearly $550,000,000.

Of all the countries trading with England, the United States was to the front in 1888 with a balance of trade in her favor of £38,551,805, or about $188,000,000. In 1889 this balance was increased to £51,582,541, or a fraction over $254,000,000. Of all the European nations maintaining extensive trade relations with England, Germany stands out in a sort of forlorn contrast with her neighbors, having a balance of trade against her in 1888 of nearly $6,000,000. In the following year (1889) the balance was increased by $14,000,000, the total recorded against her being $20,000 000.

France comes next to the United States, having increased the balance of trade in her favor from $73,000,000 in 1888 to $118,000,000 in 1889.

Russia exported to England in 1888 $131,000,000 worth of her products, while she took in exchange only $38,000,000 worth, leaving a balance in her favor of $93,000,000. The following year the balance was nearly the same.

Holland and her possessions purchased $70,000,000 less than she sold in the English markets in 1888 and about $64,000,000 less in 1889. She managed to keep the balance of trade well on her side both years.

The imports from Belgium in 1888 amounted to $78,000,000, while the English exports were $65,000,000, leaving a balance on the Belgium side of $13,000,000. In 1889 the imports from the same source were $88,000,000, while the exports to Belgium were $68,000,000, or a balance on the Belgium side again of $20,000,000.

Political economists may evolve from these figures conclusions to suit themselves. The proposition is self-evident that a country which occupies the foremost place among the nations of the earth for its commercial supremacy is confronted with an uphill fight to maintain that supremacy when the balance of trade is piling millions on top of millions against her each year. It is for the people of the United States, conscious of the advantages of their position, their increasing power, and unequaled all-round resources, to look to the logic of facts and be prepared to make the most of future possibilities. The time is not far distant when they may find themselves masters of the commercial situation, for commercial supremacy, like national domination, is liable in the course of time to shift its base. It behooves them, therefore, to be on the lookout for this valuable trade, which is bent on slipping away from its old moorings to drift into currents that are destined to convey it to closer markets and more friendly shores.

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, January, 1891.

THE OCTROI OF ROUEN.

REPORT BY CONSUL WILLIAMS.

TRAFFIC.

The last month of the year 1890, as the preceding months of that year, indicated an important increase in the traffic of the port of Rouen. In reviewing the total of entries and shipments for the year 1890, we find that 1,888 ships, carrying 1,375,451 tons of merchandise, have entered the port, and that 237,651 tons have been shipped, making a total of 1,613,102 tons.

The year 1889 gave a sum total of 1,309,399 tons transported on 1,349 ships; the year 1888, which was considered exceptional, gave a summary of 1,604,838 tons conveyed on 1,873 ships; the year 1878, 1,309,982 tons on 1,750 ships.

The imports of corn and wine, in anticipation of an advance of tariff, caused the increase in 1888. In 1890 the excess was due to coal.

THE OCTROI.

The receipts of 1890 amounted to 3,673,500 francs, against 3,680,900 francs in 1889, a diminution of 7,400 francs.

The loss was 22,300 francs upon weights and measures, accounted for by the extraordinary importation of corn in 1889 to avoid increased duty subsequently imposed; upon iron for building purposes, 20,000 francs.

The excess of receipts upon coal and wood for fuel was 10,000 francs; upon straw, 4,500 francs. Certain building materials also showed an increased consumption, such as wood, 8,300 francs; cast iron, 5,000 francs; glass and slate, 5,000 francs.

CONSUMPTION OF FOOD AND DRINK.

The inhabitants of Rouen consumed 16,717 hectolitres of alcohol at 100°, about 707 hectolitres more than in 1889. Nor did they confine their attention exclusively to this beverage, for we find that they drank 15,000 hectolitres of beer, 45,140 hectolitres of wine, and their progress in this direction deserves notice and indicates an increase of 2,450 hectolitres of beer and 1,500 hectolitres of wine; on the contrary, they drank 187,400 hectolitres less of cider, but this was due to the light crop of apples. It is impossible to assign any reason for this thirst of last year, as it exceeded that of the years of the exposition and workmens' convention, when large crowds were attracted to this city. As the best-informed inhabitants are lost in conjecture, I do not venture to mention my theory, but prefer to pass from this to a drier subject.

The consumption of meat was less than during the last year. At the cattle market 121,000 head were sold, in place of 133,000 in 1889, and, what would more clearly indicate the actual local consumption, the number slaughtered at the abattoir (slaughter-house) was 64,318, in place of 70,365 in 1889. The weight of meat of all kinds consumed was 6,779,000 kilogrammes, against 7,218,000 kilogrammes in 1889 and 7,830,000 kilogrammes in 1888, which proves clearly that their capacity for food is in an inverse proportion to their ability to absorb liquids.

The decrease in the consumption of game has been proportionally less.

Butter, eggs, and cheese have entered in the proportion of 1,957,000 kilogrammes, against 1,857,000 kilogrammes in 1889, a gain of 100,000 kilogrammes.

The receipts from the sale of fish for 1890 were 1,447,500 francs, an increase of 28,400 francs over 1889.

The sale of vegetables was larger than usual, but, in consequence of the severe and continuous frost which has prevailed, they have passed into the category of luxuries and are beyond the means of ordinary persons.

CHARLES P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, January 21, 1891.

LINSEED IN INDIA.

REPORT BY CONSUL-GENERAL MERRILL, OF CALCUTTA.

The seed obtained from the cultivated plant *Linum usitatissimum* is known as linseed. The linseed cultivated in India up to altitudes of 6,000 feet above the sea is oil yielding.

Experiments extending through years prove that the climate of this country is not as favorable as that of Europe for the production of the best flax fiber, also that a certain apathy or dislike of change among the peasantry will prevent the cultivation of this plant for anything but the seed. Though much has been been done by the Government for the production of flax and hopefulness of success has been indulged, the result has not been commensurate with the efforts put forth nor with the hopes entertained. Jute holds the place of flax in popular favor.

Linseed is grown on all the different classes of soils comprised between the lighter clay and sandy loam. It does not do as well in stiff clay as in light sandy soils, but thrives on the heavy black cotton soil of which the level plains of this country are formed, similar to the land in southern Louisiana were there in this Mississippi delta a stronger admixture of clay. The valley lands receive three or four plowings and two or three harrowings. Linseed should not be buried deep; otherwise it will not germinate properly. The seeds are, therefore, not plowed in, but simply covered by passing a drag over the field once or twice. It can be sown alone or with wheat, grain, or mustard. Sometimes all of these crops are grown together. When sown with such a crop as grain or wheat, the plan adopted is this: After wheat or grain has been sown the land is plowed; linseed is now sown broadcast, and the operation is finished by using the drag or ladder twice.

On the lighter clay land the method for growing linseed is the simplest imaginable. As soon as the rice field has become sufficiently dry, linseed is sown broadcast on the standing rice. The rice is harvested as usual, the linseed being left to be reaped about the last of March.

In some districts it is grown on land which is under water during the rains, and in this case its cultivation is of the roughest possible description, there being no preparatory plowing, but the seed being simply scattered over the ground and plowed in. Yet it is acknowledged that the land must be well drained, as stagnant water is very injurious to the crop. When linseed occupies the land alone, from 15 to 20 pounds of seed is used; but, when it divides the soil with other plants, only half as much is required.

Among the varieties of linseed there are two important kinds—the white and the red—which seem, in ordinary nomenclature, to be all-embracing. A slight preference is expressed for the former, as it is said to yield a little more oil and to yield it more easily than the latter, while the cake is softer and sweeter than that produced from the red seed.

It is impossible to arrive at definite information in regard to the actual area devoted to the cultivation of linseed, owing to the very general habit of raising it as a mixed crop. If intended for local consumption, it is frequently grown along with mustard, both seeds being expressed at once for their mixed oils. It is often, also, grown with nonyielding oil crops in lines through the fields or in broad borders around the edges. It is estimated, however, that in all British India nearly 5,000,000 acres are now occupied by the present crop. The average outturn per acre from year to year is from 250 to 400 pounds, though in a few districts, such as Bustee and Goruckpoor, double this amount is claimed.

The arch enemy of this plant is rust, from which it always suffers in damp seasons. As linseed is sown in October and harvested in February, March, and April, it will not do at this early date to make estimates in regard to the coming product. It can be safely said, however, that more space has been given to it this year than last, that the ground was in good order, that the seed germinated well, that the weather has been favorable, that the crop is growing finely, and that everything promises a good outturn.

Pure linseed oil has not an extensive demand in India, there being practically but one linseed oil mill in all this region. The oil cake does not seem to be appreciated as a food for cattle; consequently almost the entire production is exported. The first exportation was in 1832, and amounted to 10 bushels. In the year ended March 31, 1861, it was 550,700 cwts.;[*] in 1881, ended as above, 5,997,172 cwts.; and during the year ended March 31, 1889, 8,461,374 cwts.

The subjoined table sets forth the imports into the chief seaports from the interior during the 3 years 1886–'89.

Exports take place chiefly in the quarter ended on the 30th of June.

The United Kingdom receives about 65 per cent. of its total supplies of linseed from India, the remainder going chiefly from Russia. In 1851 the total demand in Great Britain amounted to only 630,471 cwts., whereas in 1889 India alone furnished the United Kingdom 5,295,175 cwts.

During the year ended March 31, 1890, the exports of linseed were as follows:

Countries.	Quantity.	Countries.	Quantity.
	Cwts.		*Cwts.*
United Kingdom	4,342,962	Egypt	129,102
Austria	2,000	United States	772,758
Belgium	254,033	China	17,514
France	929,725	Australia	11,166
Germany	24,503	Other countries	420
Holland	324,943	Total	7,146,896
Italy	328,743		
Portugal	9,027		

Of the above, 5,124,285 cwts. were exported from Bengal, 2,013,169 cwts. from Bombay, and 9,442 cwts. from Sindh.

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[*] 1 cwt.=112 pounds.

During the 8 months beginning April 1 and ended November 30, 1890, the following amount of linseed was exported:

Countries.	Quantity.	Countries.	Quantity.
	Cwts.		*Cwts.*
United Kingdom	2,772,488	United States	618,750
Belgium	225,009	Other countries	153,085
France	846,391	Total	5,412,694
Holland	588,630		
Italy	208,341		

From April 1 to December 15, 1890, the shipment from Calcutta to the different United States ports was as follows: New York, 551,060 cwts.; San Francisco, 65,394 cwts.; Philadelphia, 74,994 cwts.

The value of linseed has more than doubled since 1840, but of late years the price has varied but little.

The following table shows the price in Calcutta for the past 5 years per maund[*] of 82 pounds:

Year.	January.			July.		
	Rs.	*A.*	*P.*	*Rs.*	*A.*	*P.*
1886	4	8	0	4	8	6
1887	4	8	0	4	7	0
1888	4	4	0	4	3	6
1889	5	0	0	5	6	0
1890	4	14	0	....		

NOTE.—Rs. A. P. at the head of money columns signify rupees, annas, and pice; 12 pice=1 anna, 16 annas=1 rupee=40.4 cents.

In preparing the above report I have been kindly given access to the proof sheets of Dr. Watts's great work on "The Economic Products of India."

Table showing the imports of linseed by rail and river into Bombay, Karachi, and Calcutta during the 3 years 1886–'87, 1887–'88, and 1888–'89.

Provinces whence imported.	Into Bombay.			Into Karachi.		
	1886–'87.	1887–'88.	1888–'89.	1886–'87.	1887–'88.	1888–'89.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Bombay	35,240	25,328	27,738	....	....	....
Sindh	....	....	....	44	....	5
Bengal	....	....	33	....	....	....
Northwest Provinces and Oudh	35,769	11,372	16,264	....	2	53
Punjab	1,525	102	149	61	34	60
Central Provinces	39,008	24,036	27,738	....	....	....
Rajputana and Central India	33,101	28,546	23,681	....	....	....
Berar	25,787	22,402	28,397	....	....	....
Other provinces	9,346	10,309	10,161	....	....	....
Total	179,776	122,095	134,161	105	36	118

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[*] There are two sets of weights in Calcutta, viz, the factory and the bazaar. The factory maund is equal to 74,667 pounds; the bazaar maund, the weight used by the consul-general, is 10 per cent. greater than the factory maund.

Table showing the imports of linseed by rail and river into Bombay, etc.—Continued.

Provinces whence imported.	Into Calcutta.			Total.		
	1886-'87.	1887-'88.	1888-'89.	1886-'87.	1887-'88.	1888-'89.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Bombay	....	....	....	35,240	25,328	27,738
Sindh	....	....	....	44	....	5
Bengal	220,755	228,933	199,098	220,755	228,933	199,131
Northwest Provinces and Oudh	60,593	59,576	74,698	96,362	70,950	91,015
Punjab	....	41	252	1,586	177	461
Central Provinces	213	222	138	39,221	24,258	27,876
Rajputana and Central India	629	2,754	587	33,730	31,300	24,268
Berar	....	....	....	25,787	22,402	28,397
Other provinces	1,603	2,017	2,311	10,949	12,326	12,472
Total	283,793	293,543	277,084	463,674	415,674	411,363

SAMUEL J. MERRILL,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, January 7, 1890.

GULF OF ST. LAWRENCE MACKEREL.

REPORT BY CONSUL HALL, OF CHARLOTTETOWN.

There were shipped to the United States during the calendar year 1890, through this consulate, 11,627 barrels and 844 cases (48 pounds each) of mackerel. This does not include the whole amount of the exports of this article, as many small lots, in value under $50, passed our custom-houses without a certified invoice, and, in addition, there were large shipments of cases to Sweden, Denmark, and to other portions of the Dominion.

The collectors of the different custom-houses in the consulate give as their exports 12,024 barrels and 2,709 cases. The greater part of these mackerel was of the best quality, say No. 1 and extra. They were principally caught with hook and line. Seines and vessels are not used to any great extent here. The value of the mackerel may be estimated at, say, $200,000.

The catch in the Gulf of St. Lawrence for 1891 will, judging from the past history of this fish, be medium and small. The schools from which the fish have been drawn during the last 3 years will, it is thought, make their appearance here again. Those spawned in 1889 and 1890 will take their place and from them we must draw our principal supplies, and, as they will be small, the quality of necessity must be inferior.

J. C. HALL,
Consul.

UNITED STATES CONSULATE,
Charlottetown, January 31, 1891.

COMMERCE AND INDUSTRIES OF PIRÆUS.

REPORT BY CONSULAR AGENT McDOWALL.

COMMERCE.

Piræus, as a mercantile city, has special advantages over any other city in Greece. Its splendid harbor, which is being enlarged and deepened yearly to meet the wants of modern steamships of increased size; its position between continental Greece and the Peloponnesus; its continuous and regular communications, both by land and sea, with all the markets of production and consumption, both home and foreign; its proximity to the capital (Athens); and, also, its being the starting point of nearly all the railways yet working in the country, give it a position no other city in Greece can attain. To the above advantages must also be added that it is the industrial cradle of the nation and the greatest industrial center in the Levant.

Piræus and its industries suffered a severe blow by the hurried withdrawal of the forced paper currency in 1884, which caused many failures and left business and industries almost a wreck. But for the stable basis on which many of its industries were founded, they must inevitably have foundered in those trying times. And now, at the end of this year, it is manifest that Piræus not only has successfully overcome the blow it received in 1884, but that its commerce and industries are increasing rapidly, as from the following figures, taken from Government statistics, it will be seen that Piræus holds the first place in the country in commercial, industrial, and maritime importance:

The general import trade of Greece amounted in 1888 to $24,877,000 and in 1889 to $32,424,000, and the general export trade in 1888 to $20,628,000 and in 1889 to $23,195,000. The special import trade amounted in 1888 to $21,830,000 and in 1889 to $26,530,000. The special export trade amounted in 1888 to $19,130,000 and in 1889 to $21,555,000. Of these sums, the commerce of Piræus represents, as imports on the general trade return for 1888, $8,366,000; Syra, $4,365,000; and Patras, $3,709,000. In the special trade returns the imports into Piræus were $7,603,000; into Syra, $3,637,000; and into Patras, $3,418,000.

In the export trade Patras comes first of the above-named ports, having exported in 1888 values in general trade amounting to $3,267,000; Syra second, with $1,093,000; and Piræus third, with $421,000.

In the general trade imports of 1889 Piræus leads with the sum of $12,708,000, Syra follows with the sum of $4,244,000, and Patras with the sum of $4,125,000. In the special trade imports of 1889 Piræus has $10,297,000; Patras, $3,610,000; and Syra, $3,142,000. In the general trade exports of 1889 Patras has $4,300,000; Piræus, $1,640,000; and Syra, $1,133,000.

From the foregoing figures it will be seen that Patras holds the first place in export trade, but in imported values, both as regards the general and special trade, she falls far short of Piræus and very much more than Piræus is below her in export trade.

The combined import and export trade of Greece for the year 1888 amounted to $45,506,000, of which sum Piræus represents $8,700,000; Patras, $6,976,000; and Syra, $5,459,000. The combined imports and exports of Greece in special trade for 1888 amounted to $40,940,000, of which sum Piræus represents $7,878,000; Patras, $6,626,589; and Syra, $3,683,000.

The combined import and export trade of Greece (general) for the year 1889 amounted to $55,420,000. Of this sum, Piræus represents $14,350,000; Patras, $8,425,000; and Syra, $5,355,000. The combined imports and exports of Greece in special trade for 1889 amounted to $48,086,000. Of this sum, Piræus represents $11,745,000; Patras, $7,800,000; and Syra, $3,702,000.

It is apparent from the foregoing figures that, as regards the import and export trade of the country under the general trade returns for 1888, Piræus represents about one-fifth of the total, Patras about one-sixth, and Syra about one-seventh; and from the special trade returns for the same year, taking the combined import and export trade, Piræus represents about one-fifth, Patras one-sixth, and Syra one-tenth.

From the returns of trade for 1889 it is evident that Piræus is improving on the position above shown and that fully one-fourth of the total import and export trade combined of the country is credited to her, less than one-sixth to Patras, and to Syra one-twelfth. In other words, Piræus not only leads the list, but is equal to Patras and Syra combined in the returns for 1889, which fully bears out my opening statements as to her commercial, industrial, and mercantile superiority over all other cities in Greece.

INDUSTRIES.

In 1884 the young industries of Piræus were beginning to spread out, when they had a sudden and severe setback by the withdrawal of the forced paper currency and a return to gold payments, thereby increasing cost of production, contracting credit, and almost ruining some of them. A return in 1885 to the forced currency of paper money again revived the struggling new-born industries and saved from extinction one of the chief industries of Piræus, viz, that of cotton spinning and weaving, which at that period was on the brink of destruction.

Flour mills.—Of the industries of Piræus, flour milling holds the first place as regards value of output. There are fourteen steam flour mills in Piræus, some of them on the latest roller system, employing about five hundred hands, and yearly grinding grain to the value of $3,000,000. Nine-tenths of the product of these mills is consumed in the country and one-tenth exported to Turkey. The wages paid in this trade are: For stone dressers and millers, $1.50; for other laborers and odd hands (not tradesmen), average, 50 cents per day. The working day is 12 hours.

Cotton mills.—Cotton spinning and weaving comes next in importance as to value of output. There are seven such factories, employing about twenty-five hundred men, women, boys, and girls. The annual value of the produce of these mills amounts to $1,600,000, two-thirds of which is consumed in the country and one-third exported to Turkey, Bulgaria, Servia, and Roumania. The cotton used is about half native grown and half imported (Egyptian, American, and Indian in about equal proportions). The hours of labor in all the spinning, weaving, and textile industries in Greece are the same, averaging about 10 for 3 months in winter, 12 during spring and autumn, and 13 during the summer months. The average rate of wages for men is 80 cents; women, 45 cents; and for boys and girls, 10 to 15 cents, per day all the year round.

A new worsted-weaving mill commenced operations last year. It employs about four hundred hands, and produces values amounting to $200,000 per annum. Hours and wages are the same as in cotton mills.

Iron works.—Engineering and iron-founding come next in importance. There are five works of this kind of considerable magnitude, employing, on an average, seven hundred hands, and turning out values amounting to $500,000 yearly. All the metals used in these works are imported from England, Belgium, France, and Germany. The hours of labor are 10 a day all the year round. The wages of foremen, who are all foreigners, are $3 per day; leading hands (natives), $1.50 per day; ordinary good mechanics, $1 per day; and laborers, 50 cents per day. Many apprentices are indentured in this trade, serving a 7 years' apprenticeship, during the first 2 years of which they do not receive payment and on the third year receive 5 cents per day, and are advanced 5 cents per day yearly till the end of their apprenticeship. The greater part of the product of these works is used in the country and includes steam engines and boilers, flour and oil mills and gearing for the same, castings and general ironwork for buildings, bridges, etc., and general repairs to steamships. Two of these works have commenced shipbuilding on a small scale, having built several small steamers of 100 to 200 tons burden.

Distilleries.—There are two distilleries in Piræus making very low-class spirit, which is used chiefly to fortify weak wines. The annual product is $200,000 in value.

Oil and soap works.—Of these there are two large and many small establishments, with a combined production valued at $200,000 yearly.

Macaroni factories.—These are six in number. The yearly value of their production is $160,000, nineteen-twentieths of which is consumed in the country and one-twentieth exported.

Paper manufactory.—There is only one paper manufactory in Greece. Its annual production is $80,000, which is all used in the country.

Chair factories.—There are some fifteen of these in Piræus, but none on a large scale. They manufacture the commonest kinds of cane and rush bottomed chairs. The value of the annual production is $70,000. Wages in this branch of trade are very low, men rarely earning over 45 cents, and women 25 cents, per day of 15 hours.

There are no factory laws in Greece, neither as regards hours of labor nor the age at which children may be employed in factories. It is, however, a much-needed law, especially in the cotton and textile factories, where children of 9 years of age of both sexes are kept at work during the heat of summer from 4:30 a. m. till 7:30 p. m., with only 1 hour's interval during all that time for meals and relaxation.

Miscellaneous.—There are two tanning establishments, whose annual production is valued at $50,000. Of wire nail manufactories, there are three, making nails from imported wire; the annual value of the output is $32,000. There are several sawmills, ice factories, manufactories of sweets, brick and tile works, furniture-making works, and naphtha-distilling works, having a combined annual output of $150,000.

SHIPPING.

There entered and cleared from the harbor of Piræus during the year 1889 from and to home and foreign ports 7,000 vessels in all. Of this number, 1,129 were steamships and sailing vessels from foreign ports, the aggregate tonnage being 887,251. The movement of shipping in the port of Piræus is increasing yearly. The ships entering and leaving Piræus harbor are: Greek sailing vessels and the steamships of the three Greek companies (two coasting, and one running steamers to the Black Sea ports and intermediate ports to Trieste), the Austro-Hungarian Lloyd's, the Italian Florio-Rubattino Company, two French companies (the Messageries Maritimes and Fraissinet Company), the Egyptian Khedive line, a Dutch line, a Danish line, one German line, and an English line from Liverpool, all having regular established agencies in Piræus. At present ships requiring repairs use the Government floating dock in Salamis Bay.

Two lines of railway run out of Piræus. At present I merely mention these, as I purpose reporting at an early date on the railways ot Greece.

A. C. McDOWALL,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Piræus, January 19, 1891.

Electricity for lighting purposes.—The consul-general at Melbourne, under date of December 22, 1890, requests, for the information of the corporation of Melbourne, such reports upon the transmission of electricity for lighting purposes as it may be possible to obtain, especially with reference to the economy of carrying the conductor upon poles or underground, loss by either method, and possibilities of distance, etc., as they would profit by the experience of companies or corporations in the United States. They have a water-power 13 miles distant.

BRITISH SHIPBUILDING IN 1890.

REPORT BY CONSUL JONES, OF CARDIFF.

All the berths of all the shipbuilding yards of the United Kingdom were fully occupied at the beginning of 1890. The capacity of the yards for turning out tonnage was greater then than it had been at any period in the history of British shipbuilding. There was ground for believing that the tonnage launched during 1890 would, perhaps, exceed the output of any previous year, but the predictions of a year ago have not been verified; a slight decline rather than an advance has taken place.

The output of tonnage in 1889 aggregated 795 vessels measuring 1,326,240 tons, against 874 vessels measuring 1,276,127 tons in 1890, showing a falling off of 50,011 tons. But, although all the berths of all the yards were fully occupied at the beginning of last year, fresh orders were few and far between, especially during the first half of the year. Meanwhile the cost of production was daily increasing in every direction and department to an extent which absorbed a large proportion of the builders' profits, advanced the price of cargo tonnage, and discouraged judicious intending buyers. Moreover, labor troubles were threatening everywhere, strikes ensuing in some instances, while anxiety and unsteadiness pervaded the industry during the first half of 1890; but towards midsummer fresh orders again came, the berths were once more occupied, and the yards were kept well employed until towards the close of the year.

Much anxiety has been caused, and undoubted evil has supervened, through the perpetual friction between employers and employed. It is believed by many, including the present writer, that perfect and permanent organizations, recognized on both sides, are the only safeguards against strikes and lockouts, with their disastrous effects upon trade, their crop of suffering and privation to the men and their families, and the evil consequences to the education and future career of workmen's children. Permanent boards of conciliation will bring concord and far-reaching blessings in their train; they promise more, are more pregnant with future good, than any principle or project in politics or economics that is commanding the attention of statesmen and scientists to-day.

Although 1890 was a year of anxiety and frequent disappointments to ship owners and builders, it was one of the greatest shipbuilding years in the history of the industry, showing a tonnage launched represented by 874 vessels measuring 1,276,129 tons, coming within 50,011 tons of the aggregate launched in 1889 and showing an advance on the great shipbuilding year 1883 of 26,129 tons. The years 1883 and 1889 indicate the full sweep of the pendulum. The former year showed a tonnage launched of 1,250,000; then commenced the downward swing and in 3 years, or by 1886, the total annual output had declined to less than 500,000 tons, or, to be accurate, to 480,799 tons. The gradual yearly increase set in with nearly 100,000 tons in 1887, over 325,000 tons in 1888, and 425,553 tons in 1889, when the total output reached the unprecedented figures of 1,326,240 tons. As it was in 1883, so it will prove to have been in 1889; the tonnage launched during the latter year will mark the furthest point of prosperity that the shipbuilding industry shall enjoy for many years to come. The year just ended already indicates a falling off of 50,011 tons compared with 1889, and should the annual decline of 1891 approach 500,000 tons compared with 1890 I shall certainly not be surprised. The downward course of the industry will be hastened by the facts, first, that freights have been for the last 12 months, and continue to be, unsatisfactory and unprofitable to such an extent that a vast amount of tonnage is already laid up for want of remunerative employment; second, that the price of coal and shipbuilding material continue as high as they were at the beginning of last year; third, that wages all round are equal to the rates prevailing in January, 1890. I conclude, therefore, that shipbuilders will not, during the next few months at all events, be in a position to make tempting offers to shipowners in the way of low prices, while the shipowners, in view of the wretched freights prevailing and prospective, will scarcely feel warranted in ordering new ships without some extraordinary inducements on the score of terms.

Indeed, everything seems to indicate that the decline of output during the current year, compared even with 1890, will prove serious to shipbuilding and auxiliary industries, as well as to a large army of artisans and laborers.

The advantage to be derived from large ships in speed and economy of working continues to influence shipowners in that direction, and the average size of ships has advanced to a substantial extent at all the shipbuilding centers.

If British shipowners and the admiralty were loth to adopt iron instead of wood as a shipbuilding material, they have not been slow in recognizing the superiority of steel over iron for the hulls of ships, and during the year under notice no less than 97 per cent. of the total output of tonnage was built of steel, the remaining 3 per cent. representing iron ships and a few small wooden vessels.

The advantage of the triple-expansion over the compound engine is also generally admitted, and the triplex type is all but universally adopted. Engineers, indeed, are already complaining that shipowners are blind to their own interests in declining to adopt the quadruple engine. Mr. Wigham Richardson, president of the Northeast Coast Institute of Engineers and Shipbuilders, said in his inaugural address that "there is no manner of doubt that a great economy must follow the adoption of four cylinders, and that they will come into use as soon as they can be arranged without undue complication, with a ready accessibility of parts, and without any great increase of weight or space; and I may say, parenthetically," continued Mr. Richardson, "that my friend and partner, Mr. John Tweedy, claims to have fulfilled all these conditions."

The year 1890 was remarkable for the loss of the fine steamers, *Dacca, Quetta, Tasmania,* and *Hong Kong* and for the unique disaster to the *City of Paris.* To this list must be added the name of the ill-fated *Serpent.* The loss of life attending some of these wrecks and the immunity from personal injury in the case of the *City of Paris* disaster confirm the views formerly expressed in my annual reviews of the wisdom of building ocean passenger steamers in numerous water-tight compartments and of providing them with twin screws. Paddle-wheel passenger vessels should also be provided with twin engines, each engine working, not one, but two cranks. Such a vessel would never be placed in the difficulty in which the *Paris* found herself in January, 1890, when, through the rupture of one or two paddle arms and floats of one wheel, she became helpless between Dieppe and Newhaven and narrowly escaped destruction near Cape Gris-Nez.

This leads to a consideration of the life-saving appliance act of 1888, an act only recently put in force, but one which marks an epoch in nautical history.

For the first time in naval annals Jack is provided by law with good and well-found boats, with life belts, one for each man, and a sufficient number of buoys. For passengers the most careful and elaborate provisions have been made to save life in case of wreck, and perhaps little more can be done afloat, except to make the vessel herself wreckproof. The serious questions of manning and of securing sober crews have yet to be considered.

On December 9 last every British ship, except small coasting vessels and pleasure yachts, came under the operation of the law relating to free board. Every vessel must be measured and marked in accordance with the rules to be found in the load line committee's tables, given in the "Shipping World Year Book;" and in carrying out this work the surveyors belonging to the board of trade and to Lloyd's have had opportunities of discovering structural and other defects in steamers and sailing ships and have caused the defects to be remedied. This must tend to give increased security to life and property afloat, and is a valuable incident in the operation of the load line act.

There are prophets who declare that before long steam-boilers and steam-engines will pass away; that their place will be taken by smaller and more powerful motors of a more subtle character. This may come to pass; but, in my opinion, many years will elapse before any other motor than the steam-engine will propel a vessel of 10,000 tons burden across the Atlantic at the speed of 20 knots an hour.

In the engine and boiler rooms minor improvements are steadily being carried out. Evaporators, to supply fresh water to the boilers, are being fitted to nearly all ships having triple-expansion engines, and great attention is being paid by superintending engineers and by the admiralty engineers to the question of water-gauge fittings. So many fatal accidents have recently occurred in boiler rooms through false water levels and breaking of gauge glasses that everywhere inquiries are being made as to the best means of preventing similar fatalities in future. If I am not very much mistaken, the current year will witness the almost universal adoption of a means to reduce the rolling of vessels at sea, and the inventor will deserve well of humanity who shall bring into use a reliable and efficient method to reduce a vessel's rolling without lessening her initial stability.

The Clyde maintains the lead with the largest output of tonnage of any single river in the Kingdom. It has an aggregate for 1890 of 349,936 tons, showing, moreover, an increase over the preceding year of 15,482 tons. But when the Clyde is taken as a district and compared with the northeast coast, the latter district takes the first position by nearly two to one, the exact figures being: Northeast coast, 341 vessels measuring 676,183 tons; the Clyde, 302 vessels measuring 349,936 tons, or a difference in favor of the northeast coast of 326,247 tons. The Clyde continues to be the premier shipbuilding river of the world, not only in the quantity of tonnage launched, but also in the character and variety of ships built. But the Scottish river must look well to its laurels, for the rivers of the northeast coast and Belfast Loch are making marvelous strides as producers of merchant shipping of the very highest class. Messrs. Harland & Wolff are unsurpassed in this regard. Sir William Armstrong and partners, Messrs. Hawthorn, Leslie & Co., Sir Charles Palmer and partners, Messrs. Wigham Richardson & Co., Messrs. Swan & Hunter, on the Tyne; Messrs. Robert Thompson & Sons, of Sunderland; Messrs. Edward Withy & Co., Hartlepool, as well as several enterprising and accomplished firms on the Tyne, Wear, and Tees, are determined to take advantage of their superior position and, if possible, wrest from the Clyde its banner.

The Clyde has reason to be proud of its achievements last year, not only in having advanced on the output of 1889, but also upon once more winning the blue ribbon for one of its firms. Last year the great Jarrow firm of Sir Charles Palmer and partners showed the largest output of tonnage by any single firm, with a total of 64,669 tons. The year previous Messrs. William Gray & Co., of Hartlepool, took the highest position among the world's shipbuilders; Messrs. Harland & Wolff, of Belfast, had enjoyed the distinction the year before, and the Clyde before that; and now the coveted distinction has returned once more to the Clyde, as will be seen by the following table:

Name of firm.	Location.	Output.
		Tons.
Russell & Co.	Glasgow	70,370
W. Gray & Co. (limited)	West Hartlepool	64,253
Harland & Wolff	Belfast	48,625
Palmer's Shipbuilding and Iron Company	Jarrow	45,312

The following tables, showing the number and tonnage of vessels built in the various districts of iron or steel for home or foreign account, will be found self-explanatory, and I believe that they will be found accurate.

Table showing the number of vessels built in the United Kingdom in 1890, with the tonnage for 1889 and 1890.

Name of firm.	Vessels built in 1890.		Tonnage.	
	Steam.	Sail.	1890.	1889.
The Tyne:	*Number.*	*Number.*	*Tons.*	*Tons.*
Palmer's Shipbuilding Co.	14	....	45,312	64,669
Sir William Armstrong, Mitchell & Co.	13	....	28,110	34,415
C. S. Swan & Hunter	11	....	26,454	28,312
John Readhead & Sons	11	....	23,599	26,182
R. & W. Hawthorn, Leslie & Co.	9	....	19,688	22,536
Tyne Iron Shipbuilding Co. (limited)	[illegible]	....	18,016	15,547
Robert Stephenson & Co.	5	....	15,795	20,517
Wigham, Richardson & Co.	14	....	14,578	20,353
Edwards's Shipbuilding Co.	6	....	10,450	6,000
W. Dobson & Co.	6	1	10,438	12,501
Wood, Skinner & Co.	10	....	10,065	8,892
Schlesinger, Davis & Co.	3	....	7,867	13,029
Thomas & William Smith	3	....	2,356	7,101
Hepple & Co.	6	....	790	536
J. P. Rennoldson & Sons	5	....	722	....
J. T. Eltringham & Co.	5	....	658	945
Dunston Shipbuilding Co.	1	....	100	....
Thomas Brown	1	....	64	....
The Tyne General Ferry Co.	....	....	....	169
Northern Marine Engineering Co.	....	....	....	4
Total	131	1	235,062	281,708
The Wear:				
J. L. Thompson & Sons	13	....	52,040	30,545
William Doxford & Sons	9	....	28,386	24,150
Short Brothers	11	....	25,073	23,419
James Laing	9	....	22,701	29,160
Sunderland Shipbuilding Co.	6	....	15,715	23,563
John Blumer & Co.	8	....	14,270	15,316
W. Pickersgill & Sons	2	3	12,225	7,930
R. Thompson & Sons	7	....	11,377	18,170
Priestman & Co.	6	....	10,473	8,037
Bartram, Haswell & Co.	4	....	10,013	11,917
Osbourne, Graham & Co.	4	....	6,098	10,692
S. P. Austin & Sons	3	....	5,978	6,951
Strand Slipway Co.	3	....	3,129	7,482
Total	85	3	197,476	217,332
The Tees:				
Raylton, Dixon & Co.	20	....	43,665	40,689
Ropner & Sons	12	....	32,682	29,441
Richardson, Duck & Co.	8	....	24,861	21,585
Craig, Taylor & Son	2	....	15,398	10,430
R. Craggs & Sons	5	....	5,553	5,581
W. Harkess & Son	9	....	5,600	2,700
Total	66	....	127,759	110,426
West Hartlepool:				
W. Gray & Co. (limited)	27	....	64,253	58,731
E. Withy & Co.	11	....	26,024	21,015
Irvine & Co.	5	....	9,570	6,129
Total	43	....	99,847	85,875
Whitby:				
Turnbull & Son	4	....	8,682	11,146

Table showing the number of vessels built in the United Kingdom in 1890, etc.—Continued.

Name of firm.	Vessels built in 1890.		Tonnage.	
	Steam.	Sail.	1890.	1889.
Blyth:	*Number.*	*Number.*	*Tons.*	*Tons.*
Blyth Shipbuilding Co. (limited)	6	....	7,259	10,889
Union Coöperative Shipbuilding Co. (limited)	1	1	118	85
Total	7	1	3,595	10,972
The Clyde:				
Russell & Co.	8	26	70,370	46,500
Fairfield Shipbuilding Co.	8	....	33,705	23,830
D. & W. Henderson & Co.	4	11	21,196	11,806
Barclay, Curle & Co.	6	1	19,496	12,760
Charles Connell & Co.	4	3	18,012	15,020
A. Stephens & Sons	6	1	16,841	18,430
Caird & Co.	5	....	16,318	16,461
William Denny Brothers	7	....	16,228	25,230
Scott & Co.	7	4	15,882	20,630
J. & G. Thomson	7	....	14,800	12,316
A. & J. Inglis	7	....	11,554	8,304
Robert Duncan & Co. (limited)	2	5	10,742	11,257
Mackie & Thomson	11	....	7,802	2,215
Ailsa Shipbuilding Co.	7	....	6,044	3,771
W. Hamilton & Co.	3	....	5,851	5,312
R. Napier & Sons	1	....	5,659	11,640
Napier, Shanks & Bell	4	....	5,616	5,166
McMillan & Co.	2	2	5,280	10,344
Fleming & Ferguson	10	....	5,150	3,620
Murdock & Murray	7	....	4,624	5,269
Simons & Co.	10	....	4,310	3,375
Blackwood & Gordon	6	....	4,289	800
London & Glasgow Engineering Co.	2	....	3,600	8,660
Lobnitz & Co.	16	....	3,553	6,507
Allen & Maclellan	26	....	3,385	1,517
Campbeltown Shipbuilding Co.	2	....	2,951	4,484
McKnight & Co	5	....	2,510	4,558
D. J. Dunlop & Co.	5	....	2,305	5,700
Scott & Co. (Bowling)	5	....	1,970	2,054
J. Fullerton & Co.	6	....	1,774	965
T. B. Leath & Co.	11	....	1,646	527
J. Reid & Co.	3	....	1,128	12,754
Murray Brothers	7	....	1,104	....
McArthur & Co.	5	....	906	[illegible]
Darry & McKendrick	5	....	794	....
Abercorn Co.	1	....	742	86
White & Co.	....	....	550	....
McGill & Co.	3	....	419	[illegible]
Fife & Sons	....	13	172	[illegible]
D. M. Cumming	2	....	145	34
R. McAllister	....	....	120	....
T. Orr	....	....	93	....
Other yacht and boat builders	....	....	300	....
Aitken & Mansel	....	....	....	8,140
Birrell, Stenhouse & Co.	....	....	....	[illegible]
Mechan & Sons	....	....	....	[illegible]
Marshall & Co.	....	....	....	140
Wm. Swan & Co.	....	....	....	140
J. & J. Hay	....	....	....	90
Ardrossan Shipbuilding Co.	....	....	....	38
Total	216	66	349,936	[illegible]

Table showing the number of vessels built in the United Kingdom in 1890, etc.—Continued.

Name of firm.	Vessels built in 1890.		Tonnage.	
	Steam.	Sail.	1890.	1889.
	Number.	*Number.*	*Tons.*	*Tons.*
Belfast:				
Harland & Wolff (limited)	12	1	48,626	56,430
Workman, Clarke & Co.	10		15,631	17,710
McIlwaine & Macoll (limited).	5	1	2,105	5,713
Total	27	2	66,362	79,853
The Forth:				
Grangemouth Dockyard Co.	14	6	17,155	14,047
Ramage & Ferguson	5	1	8,584	13,036
S. & H. Morton	[illegible]		3,641	4,090
John Scott & Co.	5		2,720	1,006
Messrs. Hawthorn	4		800	680
J. McKenzie & Co.				82
Total	32	7	32,900	32,941
The Mersey:				
Thomas Royden & Sons	3	1	11,047	9,234
Laird Brothers	[illegible]		9,166	13,478
W. H. Potter & Sons	1	2	6,340	7,698
R. & J. Evans & Co.		1	1,146	3,406
John Jones & Co.				949
Total	11	4	27,699	34,765
Barrow-in-Furness:				
Naval Construction and Armament Co. (limited)	8		24,665	26,847
Dundee:				
Gourlay & Co.	5		11,616	
Thompson & Co.	8		8,463	8,470
Stephens & Sons		2	4,415	1,508
Total	13	2	24,494	9,978
Londonderry:				
Charles J. Biggar	1	4	10,593	7,268
The Humber:				
Earle's Shipbuilding and Engineering Company	9		4,429	18,455
Cook, Welton & Gemmell	17		2,577	1,723
Cochrane, Cooper & Schofield	14		2,211	1,350
Smith & Stephenson		3	231	184
T. Charlton	1		175	
Total	41	3	9,623	21,712
Aberdeen:				
Hall, Russell & Co.	8		5,684	5,770
Alexander Hall & Co.	4		1,595	3,320
John Duthie & Sons	3		1,949	380
Total	15		9,228	9,470
Milford Haven:				
T. R. Oswald & Co.	3	1	5,868	1,402
Hayle:				
Harvey & Co.	3		5,833	
Workington:				
R. Williams & Son	1	1	2,884	4,703
Southampton:				
Southampton Naval Works	2	1	2,250	
Cardiff:				
Bute Shipbuilding and Engineering Company	1		1,635	2,750

Table showing the number of vessels built in the United Kingdom in 1890, etc.—Continued.

Name of firm.	Vessels built in 1890.		Tonnage.	
	Steam.	Sail.	1890.	1889.
Chepstow:	*Number.*	*Number.*	*Tons.*	*Tons.*
C. Finch & Co.	7	....	1,340	....
Brixam:				
Dewdney & Sons	7	....	282	....
T. W. & A. Uphams	6	....	274	....
R. Jackson	5	....	202	....
Total	18	....	758	....
Carrickfergus:				
Paul Rogers & Co.	1	3	414	....
Rye:				
G. & T. Smith	2	....	280	302
Plymouth:				
Willough Brothers (limited)	4	....	168	....
Devon:				
Date	1	....	113	....
Yarmouth:				
H. Fellows & Sons	....	1	[illegible]	154
West Cowes:				
White & Sons	2	2	84	....
Goole:				
Callingham Brothers	....	1	77	....
Gloucester:				
W. H. Halford	....	4	60	....
Gosport:				
Camper & Nicholson	....	1	55	....
Falmouth:				
W. H. Lean	1	....	15	....

Table showing the number and tonnage of vessels built of iron in 1890.

Name of firm.	Number.	Tonnage.
The Tees:		
Craig, Taylor & Co.	4	7,801
Richardson, Duck & Co.	5	4,196
W. Harkess & Son	2	280
Raylton, Dixon & Co.	1	136
Total	12	12,413
The Clyde:		
Lobnitz & Co.	11	2,300
Scott & Co. (Bowling)	5	1,970
J. Fullerton & Co.	5	1,692
Mackie & Thomson	6	894
S. McKnight & Co.	1	197
Total	28	7,053
The Humber:		
Cook, Welton & Gemmell	17	2,577
Cochrane, Cooper & Schofield	14	2,211
Earle's Shipbuilding and Engineering Co.	7	1,812
Total	38	6,600
The Mersey:		
W. H. Potter & Sons	2	3,438

Table showing the number and tonnage of vessels built of iron in 1890—Continued.

Name of firm.	Number.	Tonnage.
The Tyne:		
T. & W. Smith	2	1,084
Hepple & Co.	6	790
J. P. Rennoldson & Sons	4	597
Jos. T. Elringham	3	322
John Readhead & Sons	1	289
Total	16	3,082
The Wear:		
W. Pickersgill & Co.	1	1,422
R. Thompson & Co.	1	699
Total	2	2,121
Dundee:		
W. B. Thompson & Co.	2	520
Belfast:		
Workman, Clarke & Co.	1	306
Blyth:		
Blyth Shipbuilding Co	1	220
Chepstow:		
E. Finch & Co	2	140
Aberdeen:		
A. Hall & Co.	1	123
Falmouth:		
W. H. Lean	1	15

SUMMARY.

The Tees	12	12,413
The Clyde	[illegible]	7,053
The Humber	38	6,600
The Mersey	22	3,438
The Tyne	16	3,082
The Wear	2	2,121
Dundee	2	520
Belfast	1	306
Blyth	1	220
Chepstow	2	140
Aberdeen	1	123
Falmouth	1	15
Total	106	36,031

Number and tonnage of vessels built for foreign and colonial account in 1890.

Name of firm.	Number.	Tonnage.
The Tyne:		
Palmer's Shipbuilding Co.	1	2,591
Armstrong, Mitchel & Co.	7	18,616
C. S. Swan & Hunter	9	22,496
John Readhead & Sons	1	2,340
Wigham, Richardson & Co.	9	14,578
W. Dobson & Co.	2	2,601
Wood, Skinner & Co.	9	9,459
A. & W. Hawthorn, Leslie & Co.	3	4,598
Edwards's Shipbuilding Co.	1	3,500
R. Stephenson & Co.	1	3,372
Tyne Iron Shipbuilding Co. (limited)	1	2,575

***Number and tonnage of vessels built for foreign and colonial account in 1890*—Continued.**

Name of firm.	Number.	Tonnage.
The Tyne—Continued.		
Schlesinger, Davis & Co.	1	859
J. P. Rennoldson & Sons	4	471
James T. Eltringham & Co.	1	228
Total	50	88,284
Total for 1889		68,514
Increase		19,770
The Wear:		
Sunderland Shipbuilding Co.	4	10,821
W. Doxford & Sons	3	5,489
J. L. Thompson & Sons	3	4,470
Osbourne, Graham & Co.	2	4,354
W. Pickersgill & Sons	1	3,819
John Priestman & Co.	2	3,806
S. P. Austin & Son	2	3,757
R. Thompson & Sons	1	3,172
Bartram, Haswell & Co.	1	2,370
The Strand Slipway Co.	1	1,311
Bridge Dockyard Co.	1	115
Total	21	43,484
Total for 1889		55,732
Decrease		12,248
The Tees:		
Raylton, Dixon & Co.	1	844
Richardson, Duck & Co.	1	1,676
R. Craggs & Sons	[illegible]	1,410
Craig, Taylor & Co.	1	684
Total	5	4,614
Total for 1889		7,787
Decrease		3,713
West Hartlepool:		
W. Gray & Co.	3	6,620
Total for 1889		11,647
Decrease		5,027
Blyth:		
Blyth Shipbuilding Co.	3	2,799
Total for 1889		2,366
Increase		433
The Clyde:		
Caird & Co.	2	7,008
J. & G. Thompson	2	4,500
Archibald McMillan	1	290
Napier, Shanks & Co.	3	4,273
Campbeltown Shipbuilding Co.	2	2,951
D. J. Dunlop & Co.	4	2,250
J. Fullerton & Co.	1	191
McArthur & Co.	5	906
D. M. Cumming	2	145
Other firms		100,954
Total	22	123,468
Total for 1889		115,272
Increase		8,196

Number and tonnage of vessels built for foreign and colonial account in 1890—Continued.

Name of firm.	Number.	Tonnage.
The Mersey:		
Laird Brothers	5	4,092
W. H. Porter & Sons	1	2,452
Total	6	6,544
The Forth:		
Grangemouth Dockyard Co	13	12,481
Hawthorn & Co	1	240
Total	14	12,721
Total for 1889		6,227
Increase		6,494
Southampton:		
Naval Works	1	2,250
Aberdeen:		
A. Hall & Co	2	1,352
Milford Haven:		
T. R. Oswold & Co	1	1,282

SUMMARY.

The Clyde		123,468
The Tyne	50	88,284
The Wear	21	43,484
The Forth	14	12,721
West Hartlepool	3	6,620
The Mersey	6	6,544
Blyth	3	2,799
Southampton	1	2,250
Aberdeen	2	1,352
Total	100	287,522
Total for 1889		279,969
Increase		7,553

General abstract of vessels built in 1890.

District.	Number.	Tonnage.
The Clyde	302	349,936
The Tyne	132	235,002
The Wear	88	197,476
The Tees	66	127,739
West Hartlepool	43	99,847
Belfast	29	66,362
The Forth	39	32,900
The Mersey	15	27,699
Barrow-in-Furness	8	24,665
Dundee	15	24,494
Londonderry	5	10,593
The Humber	44	9,623
Aberdeen	15	9,228
Whitby	4	8,682
Blyth	8	7,377
Milford Haven	4	5,868
Hayle	3	5,833

General abstract of vessels built in 1890—Continued.

District.	Number.	Tonnage.
Workington	2	2,884
Southampton	3	2,250
Cardiff	1	1,635
Chepstow	7	1,340
Brixham	18	758
Carrickfergus	4	414
Rye	2	280
Plymouth	4	168
Devon	1	113
Yarmouth	1	92
West Cowes	4	84
Goole	1	77
Gloucester	4	60
Gosport	1	55
Falmouth	1	15
Government dockyards	....	22,520
Total	874	1,276,129
Decrease, compared with 1889	....	50,121

EVAN R. JONES,
Consul.

UNITED STATES CONSULATE,
Cardiff, January 15, 1891.

FLAX CULTURE IN RUSSIA.

REPORT BY CONSUL HEENAN, OF ODESSA.

Flax is cultivated in all parts of European Russia for local consumption, but it has an importance for manufacture only in twenty-three governments, which sow more than 3,105,000 acres in flax, the remaining twenty-seven governments sowing less than 675,000 acres. With regard to the object for which flax is sown, European Russia can be divided into two regions—the northern and the southern. In the first flax is sown chiefly to obtain the fiber, although with the fiber seed is also obtained, and in the second nearly exclusively for the seed. The northern region of the cultivation of flax for manufacturing purposes extends from the southeastern part of the Baltic Sea to the central part of the Ural Mountains, within which are the governments of Livonia, Kovno, Vilna, Vitebsk, Pskov, Smolensk, Tver, Yaroslav, Vladimeer, Nizhnee-Novgorod, Kostroma, Vologda, Viatka, and Perm. More flax is cultivated in the governments of Viatka and Pskov than in the others. In the first about 251,000 acres are sown into flax and in the second about 221,000 acres. These two provinces may be considered as the centers of the cultivation of flax, around which the other flax-producing provinces are grouped. The yield of flax per acre in these provinces is very different and depends on the quality of the soil in which the flax is sown. An acre of good land gives 400 pounds or more of fiber and from 400 to 535 pounds of seed, but an acre of poor, exhausted soil will not yield more than 160 to 200 pounds of fiber and about 265 pounds of seed. The average yield for the entire region may be considered to be from 265 to 330 pounds of flax fiber and 400 pounds of flaxseed per acre.

The southern region of the cultivation of flax for the sake of the seed consists of the following territory and governments: The Don-Cossack territory, sowing 262,000 acres; Yekaterinoslav government, sowing 251,000 acres; Kherson government, sowing 175,000 acres; Taurida (Crimea), Samara, Saratov, Voronezh, Tambov, and Poltava. In the last two provinces flax is grown both for the seed and fiber. Flax for the seed is mostly sown either in virgin soil or in old fallow lands. The yield of seed in this region varies from 400 to 670 pounds and more per acre, and for an average may be estimated to be about 535 pounds per acre. The total harvest of flaxseed for all of European Russia attains to about 1,800,000,000 pounds. Considering the average value of the flax fiber to be $186 per ton and that of the seed to be $44.10 per ton, it will be seen that value or gain to Russia from the cultivation of flax is about $112,000,000 annually.

The advantages derived from the cultivation of flax would be far more if the qualities of the Russian fiber would correspond with its quantities and if a larger portion of it were to be exported in a manufactured state. As regards its quality, Russian flax is not only surpassed by Irish flax, but also by the flax of many other countries of western Europe (Belgian, Dutch, French, and Bohemian), and is valued in foreign markets lower than any other flax. The low qualities of the Russian fiber are not the result of natural causes, but of the ignorance as to the proper method of treating the flax. The cultivators of flax are chiefly peasants, who partly do not know and partly do not possess the means to acquire the latest improvements in the primary technical manipulation of the fiber. Another cause of the imperfect working out of the flax is to be found in the absence of a home demand for a high quality of fiber. Russian factories do not produce linen from the finest numbers of spun (thread), and therefore do not require the highest class of flax. This latter circumstance is unfortunate, as it is a strong impediment to improvements in the manipulation of the flax fiber.

The aim of the producer is a large quantity rather than an improved quality, and the result is a progressive reduction in the qualities of the fiber. Of late years this has become particularly apparent in the government of Pskov. Formerly Pskov flax had a high reputation all over Russia, but now it is quoted much lower than flax from Velogda, Kostroma, Yaroslav, and Tver. About one-half of the flax fiber produced in Russia is exported abroad only half worked (the unbrushed fiber together with the tow), and the greater part of the fiber remaining in the Empire is worked up by the peasants in their farmhouses into thread and linen for their own use, as well as for sale. A much smaller part of the flax goes to the spinning and weaving factories, which are chiefly situated in the governments of Vladimeer, Kostroma, and Yaroslav.

As regards the internal or home trade of flax, it is almost entirely in the hands of small dealers, who drive from village to village and make their purchases in small lots. The flax thus collected is then sent in considerable quantities to the towns which serve as centers to the flax trade. In the western part of the northern region the most important centers of the flax trade are Poneviezh (government of Kovno), Dünaburg (government of Vitebsk), Pskov, Ostrov, Opochka, and the hamlet of Soltsy (government of Pskov). From Poneviezh and Dünaburg the flax is chiefly forwarded to Riga, and only a small quantity of it to Libau, and from Soltsy by rafts on the spring high water to St. Petersburg. The port of St. Petersburg receives the flax, tow, and linseed from Tver, Yaroslav, Kostroma, Vladimeer, and even from Vologda and Viatka. In the government of Tver the chief markets for the products of flax cultivation are Byetsk, Rzhev, and Kashin; in the government of Yaroslav, Ooglitch, Rostoff, and the village of Velikoje; in the government of Kostroma, Kostroma, Nerekhta, Kineshma, and Ples; in the government of Vladimeer, Melenki. From the three last-named governments only a small part of the flax is sent to St. Petersburg, the greater part being used up by the flax-spinning and linen-weaving factories. From the governments of Vologda and Viatka the bulk of the flax is forwarded to Archangel. The points where flax produce is collected for shipment by way of Archangel are: In the government of Vologda, Oostioog Velikee; in the government of Viatka, Viatka, Orlof, Slobodskoi, Kotelnik, Glazov, and Kukarka.

In the southern region the chief product of the cultivation of flax (linseed) goes direct by rail to the ports of Odessa, Rostoff, and Taganrog for exportation abroad. As regards the southeastern provinces of Samara, Saratov, and part of Tambov, they send their linseed by the water ways of the Volga and her system of canals to St. Petersburg.

The *Linum usitatissimum vulgare* and *crepitans* are being cultivated in Russia in several varieties of both kinds, but the difference in these varieties is so slight and they so easily blend that even those initiated in the trade of the article often fail to perceive it. Both (*vulgare* and *crepitans*) have blue blossoms and occasionally white blossoms. The blue-blossom varieties are preferred. About 21,000,000 bushels of seed are annually raised in European Russia. The quantity exported was as follows:

	Bushels.
1887	13,000,000
1888	14,000,000
1889	13,500,000
1890 (estimated)	12,000,000

Of the total export of Russian oilseeds England receives (via Hull and London) 57 per cent.; Germany, about 14 per cent.; Holland, about 11 per cent.; and Belgium, about 8 per cent. The most important markets for the sale of Russian flax fiber are Dundee, in Scotland; Lille, in France; Ghent and Antwerp, in Belgium.

Flaxseed, as understood in Russia, comprises sowing seed and crushing seed. The first named is a more carefully sorted quality, exported exclusively for sowing purposes. Crushing seed is the surplus seed of the flax-plant, which is exported for making oil, etc., as there is no demand for it as sowing seed. With this quality the seed received from the interior is mixed and the whole exported as crushing seed. Of the total quantity exported, viz, 13,000,000 bushels, about two-thirds is described as sowing seed.

The seed is sown in April, May, and early in June. It is sown earlier in the south and southeast than in the center, west, and north; much depends whether the seasons are early or late. The harvest begins as early as July and as late as the months of August and September, earlier in the south and later in the north. The number of bushels of flaxseed raised per acre depends on the object to be attained; when the seed is the object a much less quantity is sown per acre, and when the fiber is desired a much larger quantity is sown. In the south and east of Russia a little over a half bushel per acre is sown, and the yield is about 10 bushels. In those parts of central Russia where the fiber is not utilized a little over four-fifths of a bushel is sown, and the yield is about 10 bushels. In western Russia and those parts of central Russia where the fiber is utilized 1 to 1½ bushels per acre are sown, and about 5 bushels is the yield. In northern Russia, where the fiber is the chief consideration, nearly 3 bushels per acre are sown, which gives about 6 bushels of seed and from 300 pounds to 600 pounds of fiber. This year's crop is above the average in quality, but less in quantity than any year since 1885. The seed is ready for export in the months of September, October, and November in the south, and from northern and central Russia often not before March of the following year.

Flaxseed is exported from Riga, Libau, Pernau, St. Petersburg, Rostoff-on-Don, Odessa, Nicoliaev, Sevastopol, Mariopol, Taganrog, Berdiansk, and other ports by water, and also in large quantities by rail to Germany and Austria. Flaxseed is usually sown by hand, and the land should be carefully prepared and be of good quality. The plowing should not be less than 9 inches in depth, and the land should be as free as possible from weeds and thoroughly prepared beforehand for the reception of the seed; after the sowing, the seed is covered by passing a harrow once or twice over the ground. Moist and mild weather favors the development of the plant in all of its parts; a hot and dry climate, with occasional showers, will produce a good development of the seed, but the fiber is usually coarse and brittle, as the lignin parts of the stems then develop at the expense of the fiber. The cultivation of flax, whether for seed or fiber, requires for its proper development a rich black loam (10 to 14 inches) having a clay subsoil; good crops, however, are grown where the subsoil is gravel or gray sand. Flax is grown in nearly every province of European Russia.

The working up of the flax fiber is carried out by the so-called flax-breaking or flax-swinging, and further by flax-spinning and linen-weaving, factories. The total number of flax-swinging factories is 59; of flax-spinning factories, 20; of linen-weaving factories, 88. These factories produce annually goods valued at $20,000,000 and over, which are made entirely from the flax fiber. Much linen and thread is made yearly by the peasantry at their homes, the value of which can not be obtained. About $5,000,000 of linseed oil is manufactured and consumed annually in Russia, a very small quantity being exported. Oil cake, the product of flaxseed, is exported to the value of about $2,500,000 yearly. The lesson to American farmers, especially those of the Northwest, which the total product of the cultivation of flax in Russia furnishes will be readily appreciated and understood. The possibilities which the cultivation of the flax fiber offers to Western farmers is only equaled by the surprise that such possibilities have thus far been neglected, if, indeed, they were not altogether unknown. The seed has been cultivated with more or less satisfactory results in the United States, but the fiber practically not at all. The climate, soil, and conditions generally throughout the Northwest are very favorable to the cultivation of the flax fiber as well as the seed. After a short experience, as to the primary manipulation or handling of the flax fiber, our farmers would produce flax which would compare favorably with the best varieties of the fiber. It seems strange that a practical people like ourselves should for years have been satisfied to cultivate flax for the seed at a value of about $15 per acre, and at the same time we allow 600 pounds of flax fiber per acre to rot on the ground, this flax fiber having a value, after being manipulated, of $186 per ton. Familiar as our farmers are with the working of improved and expensive agricultural machinery and the latest developments of the human intellect as applied to the soil, they may always learn something by watching the working of rude ideas as seen in a primitive and unsophisticated people. The main difference between the old and the new system of farming is not one of method, but of expense; and, as physicians never really know what a disease is capable of until they see an outbreak in virgin soil, so it is not possible to fathom all the possibilities of the most commonplace notions and devices until we see them applied with the unconventional freedom and simple directness that belong to comparatively primitive peoples. The Russian peasant is both simple-minded and ignorant; he clings to old methods as much from liking as for the expense which new methods involve. From the flax fiber, by the aid of his primitive and rude contrivance, the Russian peasant produces linen, thread, crash, and other valuable and necessary articles for the use of his family and for sale. It does not require the aid of expensive machinery to make the flax fiber either useful or valuable. The rude machines which the Russian peasant employs are the handiwork of some village carpenter or wheelwright, and are made at a comparatively small cost. If the Russian peasant farmer accomplishes such results, the American farmers, who possess like conditions of climate and soil, should accomplish much more. The unsatisfactory condition of the farmers in our Northwestern States, which is certainly due to the overcultivation of wheat, with its yearly decreasing yield per acre, renders it all the more important that a speedy means be found to relieve a condition of things which affects the material interest and welfare of the great majority of the people of the United

States. Such a means exists in the flax-plant. It will not only enable farmers to make their own linen, rope, thread, crash toweling, oil cake, and much besides, but will cause new industries to be established throughout the country in districts where the advent would be both profitable and new. There should be a general and persistent effort made to encourage the cultivation of the flax fiber throughout the United States, with the view of establishing factories for the manufacture of twine or textiles, and, if this report should develop a proper interest in so important a subject, the result can not fail to be satisfactory.

FLAX PRODUCT OF EUROPE.

In no country of the world does the cultivation of flax attain such large dimensions as in Russia. Russia alone produces more flax than all the other countries of Europe combined. Exact statistical data regarding the annually obtained products from the cultivation of flax are not compiled either in western Europe or in Russia. There are only approximate valuations, based upon the knowledge of the area which is occupied under the cultivation of flax and of the average yield per acre. Out of the total area sown in Europe with flax, and amounting to about 5,700,000 acres, more than 3,700,000 acres are sown in Russia. Notice must at the same time be taken of the fact that, while in all European countries without exception the area of land under the cultivation of flax is being annually more and more reduced, it is in Russia, on the contrary, being increased. The total quantity of flax fiber produced in the whole of Europe is estimated to be 1,354,000,000 pounds, distributed as follows:

Countries.	Quantity.	Countries.	Quantity.
	Pounds.		*Pounds.*
Russia	900,000,000	Ireland	46,800,000
Austria-Hungary	104,400,000	Belgium	43,200,000
Germany	97,200,000	Italy	43,200,000
France	79,200,000	All other countries	36,000,000

Thus the share which Russia has in the total quantity of flax fiber produced in all Europe is exactly two-thirds.

THOS. E. HEENAN,
Consul.

UNITED STATES CONSULATE,
Odessa, January 17, 1891.

TRADE AND TARIFFS OF TRINIDAD.

REPORT BY CONSUL PIERCE.

The tariff embraces both import and export duties. In respect to the former the duties range, as a rule, considerably lower than they do in the tariffs of the other British West India colonies and very much lower than in the tariffs of the Spanish West Indies.

The following table will give the duties of the four principal British colonies south of the United States on some of the chief American products:

Articles imported.	Jamaica tariff.	Barbadoes tariff.	British Guiana tariff.	Trinidad tariff.
Bacon	2*d.* per lb	5*s.* per 100 lbs	1*d.* per lb	Free.
Salted or cured beef, dry.	1*d.* per lb	do	6*s.* 3*d.* per bbl. of 200 lbs.	Do.
Bread or biscuits	6*s.* per 100 lbs	6*d.* per 100 lbs	2*s.* 1*d.* per 100 lbs	1*s.* 6*d.* per 100 lbs.
Butter	2*d.* per lb	7*s.* 6*d.* per 100 lbs	1*d.* per lb	1*d.* per lb.
Cheese	do	do	do	Do.
Corn	4*d.* per bu	6*d.* per 100 lbs	5*d.* per bu	5*d.* per bu.
Firearms		10*s.* each	8*s.* 4*d.* each for revolvers.	5*s.* each.
Fish:				
Dried	3*s.* per 100 lbs	2½*d.* per 112 lbs	2*s.* 1*d.* per 112 lbs	Free.
Pickled	4*s.* 6*d.* per bbl	5*d.* per bbl	4½*d.* to 8*s.* 4*d.* per bbl.	Do.
Flour	8*s.* per bbl	4*s.* 2*d.* per bbl	4*s.* 2*d.* per bbl	3*s.* 4*d.* per bbl.
Hams	2*d.* per lb	5*s.* per 100 lbs	1*d.* per lb	Free.
Horses	10*s.* each	10*s.* to £2 each	£1 9*s.* 2*d.*; stallions, £20 16*s.* 8*d.*	Do.
Lard	Three-fourths of a penny per lb.	4*s.* 2*d.* per 100 lbs	Half a penny per lb.	3*s.* per 100 lbs.
Meal	2*s.* per bbl	1*s.* 3*d.* per bbl	1*s.* 0½*d.* per 100 lbs	2*s.* per hogshead.
Meat, salted or cured	15*s.* per bbl	5*s.* per 100 lbs	6*s.* 3*d.* per 100 lbs	Free.
Mules	10*s.* each	£1 to £1 10*s.* each	£1 10*d.* each	Do.
Oats	4*d.* per bu	7½*d.* per bu	5*d.* per bu	4 p. ct. ad valorem.
Oil, kerosene	9*d.* per gal	2½*d.* per gal	10*d.* per gal	1*s.* per gal.
Sugar, refined	2*d.* per lb	10*s.* per 100 lbs	2*d.* per lb	10*s.* per 100 lbs.
Tobacco, unmanufactured.	6*d.* per lb	1*s.* 6*d.* per lb	1*s.* 3*d.* to 1*s.* 8½*d.* per lb.	1*s.* per lb.

The trade of this colony with its principal customers in 1889 was as follows:

Country.	Imports.	Exports.*
United States	£385,319	£719,931
United Kingdom	782,843	674,826
Venezuela	†585,585	4,981
France	88,876	102,631

* Produce and manufacture of the colony. † Including £308,979 gold bullion.

The total trade of Trinidad in 1889 was as follows:

Country.	Imports.	Exports.
United Kingdom	£782,843	£674,826
British colonies	218,638	29,357
Foreign countries	1,125,047	862,709
Total	2,126,528	1,566,892

In respect to the above tables, it is proper to state that the values on those articles which pay a specific duty can hardly be considered more than an approximation of the true value.

While the duties on the respective articles from the United States are not higher than on the same articles from other countries, the tariff as a whole, however unintentional, discriminates against American products. Bread, carriages, cheese, corn, oats, flour, meal, muskets, guns, pistols, oil meal, and refined sugar, all of which are imported principally from the United States, pay specific duties equal to ad valorem duties ranging from 10 to over 30 per cent., while earthenware and glassware, furniture, unenumerated manufactured goods, hardware, and textile manufactures, all of which are imported principally from Europe, pay, respectively, an ad valorem duty of only 4 per cent. From all I have learned the only excuse for this is that no drawback for import duties is allowed on the exportation of imports which paid ad valorem duties, while a drawback for the import duties are allowed on flour, refined sugar, and other American articles when they are exported from the colony.

While American flour, as compared with flour from other countries and with rice from British India, is fairly treated, such seems not to be the case with some of the other products which are imported principally from the United States. Kerosene pays the enormous duty of 1*s.* a gallon, equal to about 150 per cent. ad valorem, because, as I am informed, it is classed as a dangerous article, while gunpowder, almost all of which is imported from the United Kingdom, pays only about one-third as much duty according to value and candles, principally from the United Kingdom, pay only 4 per cent. ad valorem.

Unmanufactured tobacco, coming almost entirely from the United States, pays a specific duty of 1*s.* per pound, equal to about 250 per cent. ad valorem, while manufactured tobacco, coming principally from the United Kingdom, pays a duty of 1*s.* 4*d.* per pound, equal to about 100 per cent. ad valorem.

I now come to the consideration of the export tariff. The export duties pure and simple are limited to asphalt in its several forms. The crude asphalt goes principally to the United States, the boiled principally to other countries.

Exports and imports pay wharfage at Tobago and at the port of San Fernando, Trinidad. The wharf dues at Tobago on a barrel of flour are 9*d.* and on 100 pounds of butter 1*s.*; also, in respect to exports, on a hogshead of sugar 6*d.* and on a puncheon of molasses 4*d.* At San Fernando the wharf dues on a barrel of merchandise of any kind are 2*d.* and on a hogshead of sugar 6*d.* The wharf dues at San Fernando are so slight that I omit any detailed account of them.

It will also be observed from the inclosed tariff* that a special tax for immigration purposes, popularly known as the "immigration tax," is collected on certain exports from Trinidad. The wharf dues are collected to pay for certain wharf improvements. The immigration tax is collected to defray the expenses of bringing laborers exclusively for agricultural purposes from India to Trinidad.

The cooly immigration system, as now carried on year by year, is substantially as follows: The planters in need of laborers make requisition for them, specifying the number desired, and through the agency of the colonial government they are brought here from India and indentured to the planters. The requisitions are made almost exclusively by the sugar-planters and seldom by the cocoa-planters. It is estimated by the authorities that the benefits of the imported labor not only attach to the sugar industry, but, in a more or less degree, to the general public and to the molasses, cocoa, rum, and coffee industries; and now, by the ordinance for next year, to the cocoanut industry. The law provides that one-third of the total expense of obtaining these laborers shall be borne by the colonial government and two-thirds by these several industries. The two-thirds of the expense accruing to the industries is provided for as follows: Each planter who indentures immigrant laborers pays £5 per capita for such laborers, and a certain sum (the immigration tax) is fixed annually by the legislative council to be paid on the exported products of these several industries to the receiver-general of the colony.

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* Reserved for publication in "Foreign Tariffs."

While it is denied by the colonial authorities that neither the wharf dues nor the immigration tax is an export duty, yet both are levied and collected (the latter exclusively) on exports by officers of the law, pursuant to the law, and they would, therefore, seem to be export duties.

As this question has excited, and still excites, much discussion, an official copy of the immigration tax ordinance is herewith given.

W. P. PIERCE,
Consul.

UNITED STATES CONSULATE,
Trinidad, December 22, 1890.

TRINIDAD AND TOBAGO IMMIGRATION FUND.

[Inclosure in Consul Pierce's report.]

(1) There shall be raised, levied, collected, and paid for the use of Her Majesty, her heirs and successors, in aid of immigration, upon the several kinds of produce hereinafter mentioned which shall have been raised or manufactured in the island of Trinidad, and which shall be shipped for parts and places beyond the limits of the united colony on any day between the 1st day of January and the 31st day of December, both inclusive, of the year 1890, the several taxes, rates, and charges hereinafter mentioned, that is to say:

Articles.	Rate.	Articles.	Rate.
Sugar:	*s. d.*	Molasses—Continued.	*s. d.*
For every hogshead	6 6		
For every tierce	4 4	For every package less than a half puncheon	0 8
For every barrel or bag	0 8	Rum, for every puncheon	4 4
Molasses:		Cocoa, for every bag	1 9
For every puncheon	2 2	Coffee, for every bag or barrel	1 9
For every half puncheon	1 1	Cocoanuts, for every thousand	1 6

(2) For the purposes of this ordinance, every cask whereof the truss is 32 inches or more shall be deemed to be a hogshead, and every cask whereof the truss is 18 inches and less than

32 inches shall be deemed to be a tierce, and every cask whereof the truss is less than 18 inches shall be deemed to be a barrel.

(3) Where any such produce is contained in any package except those above mentioned, such taxes and charges shall be raised, levied, collected, and paid at the following rates, that is to say: On sugar at the rate of 3*s.* 3*d.* for every 1,000 pounds, on rum at the rate of 4*s.* 4*d.* for every 100 gallons, and on cocoa and on coffee at the rate of 10½*d.* for every 100 pounds.

(4) The several taxes, rates, and charges hereinbefore specified shall be payable by the shipper of such produce at the time of such shipment aforesaid, and the shipper thereof shall deliver to Her Majesty's receiver-general or subreceiver in Trinidad or the officer performing the duties of Her Majesty's receiver-general in Tobago an account of the produce in such form and containing such particulars as the governor may from time to time direct.

(5) If such account is not delivered, or if the taxes, rates, and charges payable in respect of such produce are not paid to the receiver-general or subreceiver or officer in Tobago aforesaid within 24 hours after the departure of the vessel in which the produce was shipped, the shipper thereof shall forfeit the sum of £100 in addition to the amount of taxes, rates, and charges payable.

(6) All taxes, rates, charges, and penalties payable or recoverable under this ordinance may be sued for, prosecuted, determined, and recovered on information in the name of some officer of customs before any stipendiary justice of the peace in manner provided by the ordinance No. 5 of 1868, intituled "An ordinance respecting the summary administration of justice."

(7) All taxes, rates, and charges to be paid or recovered before a stipendiary justice of the peace under this ordinance shall be paid into the colonial treasury in the island of Trinidad, and carried in the books thereof to the credit of moneys applicable to immigration, and shall be applied in aid of immigration and to no other purpose whatsoever.

(8) When any person is adjudged by any stipendiary justice of the peace to pay any tax, rate, charge, or penalty payable and recoverable under this ordinance, such justice shall state in the order or conviction, and also in the commitment of such person if committed in default of payment, the amount of costs awarded to be paid by such person, as well as the tax, rate, charge, or penalty so adjudged, and shall commit such person until payment of such tax, rate, charge, or penalty, and costs.

(9) All penalties recovered under the provisions of this ordinance shall be for the use of Her Majesty the Queen.

PORTO ALEGRE, BRAZIL.

REPORT BY CONSUL NEGLEY, OF RIO GRANDE DO SUL.

On a sloping hillside projecting into a sheet of water formed by the conjunction of no less than five navigable rivers, at the head of Lake Patos, stands the city of Porto Alegre, the capital of the State of Rio Grande do Sul, Brazil. It is one of the most prosperous and promising, as well as one of the least known, cities of this the latest Republic of South America.

Porto Alegre is not a place of recent establishment. Away back in 1780 it was a village of 1,500 souls; since then its growth has been steady and uniform, until now it numbers about 50,000 inhabitants. Situated 30° south latitude and 57° longitude west from Greenwich, it is blessed with an equable and salubrious climate. Meteorological observations at the city of Rio Grande do Sul, 140 miles south, and with a climate not greatly different from that of Porto Alegre, show that the mean average temperature for the past 11 years has been 18.88° C. Within that time the extreme variation in any one year has not been greater than 32.40° C. The average rainfall for the province in the year 1887 was 1,026.5 millimetres. With these climatic conditions, and surrounded as it is by a country diversified by hills and plains, timbered, well watered, with a fertile and productive soil, it is not to be wondered at that Porto Alegre should show a healthy progress in wealth and population.

APPROACHES.

The only approach at present from the outside world is over the bar at Rio Grande do Sul and up Lake Patos 150 miles. There is a project for shortening this approach from the north by means of a railroad extending 240 kilometres in a northeasterly direction to the seacoast at Torres, the proposed terminus of the line, and for the construction there of an artificial breakwater and harbor. The concession has been granted, but unaccompanied by any guaranty of interest. Without such guaranty—the usual method of making a thing "go" in this country—the raising of $15,000,000 (the estimated cost of the scheme) will be no easy undertaking. It will be a long time before the proposed artificial port of Dona Isabel becomes a fact.

In the meantime a concession has, within the past few months, been granted to Dr. Juão Teixera Soares, of Rio de Janeiro, for the building of a railroad from Itararé, in the State of São Paulo, south 3,000 kilometres to Santa Maria, a station on the Estrada de Ferro de Porto Alegre á Uruguyana, some 300 kilometres west of Porto Alegre, in the State of Rio Grande do Sul. This concession has a much brighter future, for, besides a guarantied interest, it will open up a splendid country all the way and will, when completed, connect the southernmost State of Brazil with the federal capital of Rio de Janeiro by means of the São Paulo Railway system. It is, perhaps, the most important railroad concession ever granted in Brazil. Manufacturers of railroad supplies in the United States should not be slow to take advantage of the opportunities offered not only by this, but by the numerous other railroads now in course of construction in this country.

STEAMSHIP LINES.

Communication at the present time between Porto Alegre and Rio de Janeiro, not to mention sailing vessels, is by means of several lines of steamships. Chief among these is the Companhia Lloyd Brazileiro, a combination effected last spring which absorbed nearly all the Brazilian navigation companies plying on the coast north and south from Rio de Janeiro. The united companies are subsidized by the Government to the amount of $700,000 annually. Next in importance is the Liverpool, Brazil, and River Plate mail steamers, more commonly known as Lamport & Holt's line, devoted exclusively to freight. They no longer transport passengers nor receive a subsidy for carrying the mails, though they still render this service as formerly. These steamers have fixed days for their arrival and departure, are finely officered, and enjoy a lucrative trade. By this line goes the bulk of the exports from this State to the United States. There is also the Companhia Norte e Sul, with four steamers between Porto Alegre and Recife (or Pernambuco, as it is more commonly known), stopping at the principal intermediate ports and carrying both passengers and freight. This company expects to put on four more steamers, one for freight and three for passengers and freight, about the beginning of next year. Finally, there is the line of the Navegacão Costeira, of the English house of John Bellamy & Co., with two steamers between Porto Alegre and Pernambuco, stopping at Bahia and Rio de Janeiro. They expect shortly to put on one more steamer. All the steamers for these various lines were built in England and are owned or backed up by British capital.

Seagoing sailing vessels of light draft pass up to Porto Alegre, while numerous smaller craft, known locally as *hiates* (pronounced "yachties"), carry on an extensive internal commerce up and down the lake.

OBSTRUCTIONS TO NAVIGATION.

Navigation is more or less obstructed by the bar on the coast where the lake debouches into the sea. In consequence of this bar only vessels of comparatively light draft can enter. Many wrecks occur, insurance is high, and freight about double that to Rio de Janeiro. The Government, recognizing the importance of having one safe harbor south of Santos that will admit vessels of the largest draft, and in order to redeem oft-repeated, but long-delayed, promises, thereby satisfying the ardent desires as well as urgent demands of the State of Rio Grande do Sul, with its 1,000,000 inhabitants and its close proximity to the Oriental, ambitious of annexation, has, by a decree passed on the 15th of September last, entered into a contract with the Société de Travaux et Constructions, of Paris—a company with an authorized capital of 3,000,000 francs—for the improvement of the bar of Rio Grande do Sul. The exact terms of this contract have not been made known as yet, but it is understood the Government guaranties the interest on the amount of money necessary for the completion of the work. There was great popular rejoicing at the time of the announcement of this contract, and since then the materialization of the company has been watched with great interest. Mr. Otero, an accomplished engineer of Rio Grande do Sul, has been appointed to represent the Government in the construction of the jetties or retaining walls, by means of which it is proposed to deepen the channel. From time to time French engineers turn up and look over the ground, but as yet nothing visible has actually been done. In due time I hope to furnish the Department a more detailed account of this great work now in progress. For the present, however, the bar exists, and vessels bound for the port of Rio Grande do Sul should not draw over 10 or 10½ feet of water.

In addition to this bar, vessels destined to the port of Pelotas and Porto Alegre have to encounter other troublesome shoals in the lake. On the way to Porto Alegre the Caugussu and Crystal are the two that give the most bother. In dry seasons and when the wind blows from other quarters than the north the water on these bars becomes very low. When I went up the lake a few weeks ago on the steamer *Canning*, drawing but 7½ feet of water, we stuck fast on the Caugussu, the worst of the two, and lay there two nights and a day. We found one steamer already aground and a sailing vessel that had been there for 18 days. Before we got off two other steamers, one carrying five hundred immigrants, joined the company. Not long ago the *Planeta*, a steamer carrying thirteen hundred immigrants, was aground there for one whole week. It is not uncommon for vessels to lie there for days, and then only get off by having lighters sent to assist them over. This, however, only occurs when the water is exceptionally low, as it has been for the past 2 months.

UP THE LAKE.

As one ascends Lake Patos toward Porto Alegre, to the east stretches a low, sandy beach, separating by only a few miles the lake from the ocean. Here and there wooded spots of comparative fertility may be seen. On this apparently inhospitable shore a number of people are located. They are engaged in the cultivation of onions and other vegetable products, which furnish no inconsiderable amount of freight to steamers bound to the northern ports of Brazil. On the west is an unbroken line of forest, from which the smoke of the settler clearing land continually ascends. There has commenced here an inconsiderate destruction of valuable timber, the want of which will some day be sorely felt. Large quantities of lumber are now imported into Uruguay and the Argentine Republic from North America, while here at their very doors timber is going to waste for the lack of capital and enterprise for its conversion into lumber and transportation to its natural market. The timber is mostly hard wood, and, doubtless, not so good for building as the pine of North America; still it makes a fairly good lumber, while for furniture and railroad ties it has no superior. Sawmills are sure to be erected here at no distant day. Enterprising builders of these and other wood-working machinery should keep their eyes upon this field.

As you approach the northern limit of Lake Patos, the breadth of the waters rapidly narrows and picturesque hills, more or less covered with trees, rise on either hand, presenting a landscape of unsurpassed beauty. The fertility of the soil, however, is not so great as further north and west, where the sierras and elevated table-lands, which extend southward from Rio de Janeiro to the northern limits of the State of Rio Grande do Sul, drop away into a long reach of broken foothills, and from them down again to the plains, which spread out southward through more than half of the State of Rio Grande do Sul and embrace all of the Republic of Uruguay.

THE CITY.

Porto Alegre is a bustling little city—bustling, at least, for a South American city—and is growing rapidly. There are three lines of street railways upon which the American-built cars of John Stephenson run to and fro. The Linha do Menino Deos has two lines, one of 6,154 metres, the other of

6,537 metres, in length. The Linha do Caminha Novo has a line 4,620 metres long, and the Linha do Parthenon one of 4,620 metres. I noticed steel ties from Belgium being laid on one of their lines, replacing the wooden ties, the rails being of the T pattern and raised above the surface of the road-bed. The streets are lighted by electricity furnished by an American plant. Gas is also used upon the streets and in the houses. The manufacture of gas is after the old and expensive style. I should think there would be here and in other cities of this State an opening for the improved American methods for the manufacture of illuminating gas. The public buildings consist of a *Camera*, or government house, which will doubtless become the capitol of the State legislature when the autonomy of the local government has been once established; the governor's residence, a plain, two-story building; the jail, an imposing structure, painted a brilliant yellow, and, unfortunately, given the most conspicuous position on the water front; the custom-house, a public library with 6,700 volumes, and a theater of fair dimensions and appointments. On the suburbs is one of, if not the, largest military schools in the Republic and a new, large, and well-built lunatic asylum. The architecture of the city is after the prevailing Spanish-American style; except in the business portions, the buildings are of one and two stories, brick, plastered and washed white or some gray color, and roofed with tiles.

MANUFACTURES AND COMMERCE.

There are a number of manufacturing establishments in operation and others projected. Among them may be mentioned eight or ten breweries, which manufacture a fair quality of beer, importing their hops and barley from Europe; a paper mill, half a dozen sawmills; several chair and furniture factories, which do a thriving business; an ice factory, tile and brick yards, and a rice mill in course of construction. The proprietor of the latter expects to have his rice raised in this State, where none is yet produced, and to this end is distributing seed and instructions for the cultivation of the cereal. There are many large commercial houses in Porto Alegre engaged in the distribution of imports to the large tributary country which looks to this city for its supplies and in the shipment of the products of the country, chiefly hides, corn, *farinha*, and black beans to the various ports on the South American coast and to foreign countries. The chief American imports are flour, kerosene, resin, turpentine, sewing machines, plows, cornshellers, colliers' axes, cotton drills, and blacking. There is not a single American house here, while the Germans and the English have many large and flourishing establishments. The German element predominates largely in Porto Alegre and surrounding country, the German language being heard almost as frequently as the Portuguese.

IMMIGRATION.

During the past few years, however, many Italians, Spaniards, and this year a large number of Russian Poles, have come into the country. The great majority of these newcomers are located in colonies, becoming cultivators of the soil, but in time they will make themselves felt in the villages and cities as well.

Immigration into this part of Brazil for the past 6 months has been phenomenal. Almost every steamer comes in loaded down with immigrants, and nearly all go up to Porto Alegre to be thence distributed through the surrounding country. The exact statistics in regard to immigration and what provisions the Government is making for this vast tide of population setting toward Brazil will be given in another report. Suffice it to say here that, while the immigrants swarming from the overcrowded hives of Europe to these inviting shores will, no doubt, nine times out of ten improve their condition, still for the first few years their way can not be described as a path of roses. Hardships and privations on their passage here and after their arrival will have to be endured.

THE COLONIES.

All around Porto Alegre new colonies are being established and old ones constantly recruited. Yet it must not be supposed that this is an altogether virgin country. Some of the German colonies date back into the early part of this century. One may hear stories of the depredations of the Caboclo and Bugre, the native Indian tribes, remnants of which still exist in the interior; but these stories are traditionary and relate to the early history of the colonies.

Connection with the interior is effected by means of two railroads and five navigable rivers flowing into the head of Lake Patos. Of the two railroads, the Estrada de Ferro de Porto Alegre á Nova Hamburgo extends northward 43 kilometres to the little village of Nova Hamburgo, its present terminus. A few miles this side of Nova Hamburgo is San Leopoldo, the center of a prosperous German colony, founded many years ago and embracing within its municipality or jurisdiction 311 square kilometres and a population of 12,000 people, mostly engaged in agriculture. This railroad is under English control and has a 7 per cent. guaranty from the Government, without which, owing to the shortness of the road, it would not pay. There is some talk of extending the road to the colony of Santa Isabel, a large and flourishing Italian colony 50 or 75 miles west of San Leopoldo. Such an extension would be no less advantageous to the colonies than to the road. San Sebastian is another thriving colony, excellently located as to fertility of the soil, but without adequate means of communication. There are many other colonies scattered around to the north, west, and southwest of Porto Alegre. The soil is excellent, the climate salubrious, but the facilities for marketing produce very deficient.

PRODUCTS OF THE COUNTRY.

To the north and northwest of Porto Alegre you get into the foothills referred to. Here, up among the little valleys and hillsides partly denuded of woods, the soil is usually of a deep red color and of a sandy or clayey character, very rich and productive. The principal crops are corn, *feijão* (black beans), potatoes, and mandioca, a root from which *farinha* (a sort of nutricious meal) is made. *Farinha* is one of the chief articles of subsistence in the country, besides being largely exported to the north of Brazil. Sugar cane is also raised to some extent, but is mostly used in the manufacture of *caixas* (the liquor of the country), the climate not being sufficiently hot to produce sugar in any quantity. There is a good deal of wine produced, for which the country seems excellently adapted. Rye is also grown, but no wheat or barley. Perhaps the climate is a little too warm, but wheat has been grown with good results in the southern part of the State. Oranges of fine quality and flavor grow in the greatest abundance and are shipped to ports further south. Peaches, plums, figs, and strawberries do well, but neither apples nor the strictly tropical fruits, as bananas and pineapples, flourish, the climate not being cold enough for the one and too cold for the other. Light frosts occur in winter. In addition to these vegetable products, cattle and hogs are raised in large numbers, but cattle not so extensively as in the middle and southern parts of the State.

DIVISION AND PRICE OF LAND.

Up through this country the land is divided into small holdings, largely under fencing, for which stone walls are generally used. Improved land in the San Leopoldo and other older districts is worth about $40 per acre, and about 60 acres would make an average farm. There is no use to cultivate more. The average farmer and his family can live on this, and that is all he looks for. Camp land, mostly in private hands, is worth $1.50 per acre in large blocks. There is considerable Government land yet in this State, upon which the immigrants are being located, but the most eligible land has been taken up.

METHODS OF AGRICULTURE.

The methods of agriculture are very crude. The best land is wooded, and has to be cleared, and the thick undergrowth removed by hand. The ax, machete, and hoe come first; then a pair of oxen and a plow complete the agricultural operations. Axes, hoes, plows, and cornshellers are the only agricultural implements for which there is any demand. The plows come from Hamburg and the United States, the cornshellers principally from the United States. There is a growing demand for the American plow, but this is everywhere met by a sharp competition from the cheap German substitute. A few chopping mills for grinding corn, run by water-power, are met with at wide intervals.

CHURCHES AND SCHOOLS.

Churches, both Catholic and Protestant, are found in the *picadoes*, or villages, and in the country. At San Leopoldo there is a Jesuit school which has an excellent reputation, students being sent to it from all parts of the State. In Porto Alegre the enrollment of pupils in the public schools only numbered 885; and as for common schools in the country, there are none.

RAILROAD SHOPS.

The Estrada de Ferro de Porto Alegre á Uruguyana begins at the Margem, 40 miles west of Porto Alegre, on the Taquary River. A steamboat leaving Porto Alegre at 6 o'clock in the morning gets you there at 10 a. m. At the Margem are fine, large railroad shops, much better than would be looked for in an undeveloped country. In these shops I saw a number of locomotives undergoing repairs, mostly of French build. Originally all the locomotives on this railroad were of French manufacture, but they are so complicated that as fast as they give out they are replaced by American (Baldwin) locomotives, which give entire satisfaction. There are already about a dozen Baldwin locomotives on the road. All the machinery in the shops—and most of it is very fine—is of French construction. This railroad, although originally built by a private company under a Government guaranty, is now owned and operated by the Government. At present it extends from the Margem to Cacequy, a distance of 377 kilometres due west. It is the intention to extend the road to Bage and from thence to Uruguyana. This road is likely to develop into one of great importance. It already taps many of the colonies, and along its line, running, as it does, through a country of immense capabilities, others will be started as immigration progresses.

RIVER STEAMBOATS.

Upon the five rivers centering around Porto Alegre more than a dozen small side-wheel steamers already ply, some going as high as 130 miles up the Jachuy River to Cachoeira when the water will permit. Nearly all these steamboats were built in Hamburg. One serious objection to them is they draw too much water for the upper parts of the rivers. A Danish engineer on one of these small boats told me he had just sent out to England for estimates on a light-draft steamboat, built on the American plan, with a stern paddle wheel that can be raised and lowered. If some of our builders of steamboats for the Ohio and Mississippi rivers would put themselves in communication with the parties running these boats, no doubt paying orders could be secured. The Companhia Fluvial is the name of the company above referred to, with headquarters in Porto Alegre. The boats when loaded should not draw over 5 or 6 feet of water, and should be constructed for carrying freight and passengers. The traffic up and down these rivers is already extensive and rapidly increasing.

COAL MINES.

On the Jachuy River, a short distance inland, are the San Jeronymo coal mines, the only ones in this part of South America. A railroad owned by the coal company connects the mines with the river. One hundred and fifty men are employed, and about 700 tons of coal raised monthly. The coal is seamed with slate and is thus inferior in quality. Still, it is used entirely on two railroads and in connection with wood on the steamboats. After many failures of previous companies, the present one is doing fairly well.

FUTURE PROSPECTS.

Within the next few years no little development may be looked for in this part of Brazil. It can hardly be otherwise when we consider its great natural resources, its advantages of climate, the swelling tide of a good class of immigrants constantly pouring into her borders, slavery abolished and free institutions established, the influx of foreign capital for railroads and steamship lines, and the organization of new companies for all sorts of enterprises under the stimulus of increased banking facilities offered by the new national banks. All these things tend in the same direction. To be sure, the other side of the question must not be lost sight of. The late and continuing financial disturbances of the republics to the south point a moral and adorn a tale. With these object lessons before her, it is to be hoped Brazil will avoid similar experiences. But, with all the chances of disaster looming up, it is an open question whether the present movement and activity, more or less unhealthy, is not preferable to the lethargy and stagnation which had taken possession of Brazil, retarding the growth and development of the magnificent resources of this vast and fertile country.

For the United States, also, a new era is opening in the way of increased trade relations with Brazil. Under the lessened burdens upon our export trade likely to be effected by the new reciprocity treaty now in course of negotiation, if reports be true, between the two great republics of North and South America, there is every reason why our manufacturers and merchants at home should avail themselves of the opportunities that will undoubtedly be opened and not allow the alert business men of other countries to longer retain the undisputed foothold they have already secured in this country.

CHARLES NEGLEY,
Consul.

UNITED STATES CONSULATE,
Rio Grande do Sul, December 31, 1890.

IMPORTS AND EXPORTS OF TUXPAN.

REPORT BY CONSUL DRAYTON.

Commerce seems to be progressing favorably, although during the last quarter of 1890 exports have not amounted to quite as much as the preceding quarter; yet, taking the total of the calendar year 1890, which amounted to $1,955,443.03, and that of 1889, amounting to $1,650,563.69, there is a balance of $304,879.34 in favor of 1890, and, if enterprise continues as it has done lately, a very respectable amount of increase in commerce will follow.

The import of lumber has very greatly increased this year, occupying three schooners, with regular trips and freights both ways between Galveston and New Orleans. The increase of American steamers on this line has also had the effect of very nearly running the Spanish line out of this port by taking up nearly all of the freights for New York.

The merchants appear to have become more enterprising, as they have introduced two steamers to perfect their interstate coast trade besides their sailing vessels, which have heretofore been depended on for the facilitating of business. One of these steamers was purchased in New Orleans.

There has been no change as yet made in any of the customs regulations or tariff laws relating to commerce and industry. Finance and exchange are regulated, as usual, by a few merchants doing business in New York.

At present the rate of exchange runs between 20 and 25 per cent.

JOHN DRAYTON,
Consul.

UNITED STATES CONSULATE,
Tuxpan, January 12, 1891.

RICE IN HONGKONG.

REPORT BY CONSUL SIMONS.

In the absence of a custom-house at Hongkong no statistics of the rice imported for consumption and distribution are available, except such as can be had from the Chinese merchants, to whom the traffic is confined; and there being no production of rice in Hongkong, I must confine myself altogether to matters connected with trade in that cereal, together with such reports as to the condition of the crop as are at hand.

While there is no official report on the condition of the growing crops published in China or the rice-growing countries to the south, unfavorable reports of the condition of the crop, especially that in the two southern provinces of China, owing to lack of rain, have already caused an upward tendency in prices. So far as can be ascertained, the crop, which is already for the most part gathered, will hardly reach 70 per cent. of the average in the provinces mentioned, estimated upon the basis of the crop for 1889, which was fully up to the average of good years, and may fall to 65 per cent; in Saigon and Bangkok, 85 to 90 per cent.

The rice coming from Saigon and Bangkok has not suffered any deterioration as to quality; that from China is below the standard of more favorable years.

Owing to the short crop both in China and Japan, it is likely a larger quantity of rice will come to Hongkong from the south for exportation than was received a year ago. Whether in comparison with last year a larger amount will be exported to the United States involves a consideration of the influence which the increase in prices will have. As less than 3 per cent. of the quantity received goes to the United States, it is not likely to suffer a marked diminution.

The old laws, which looked upon the exportation of rice from China with as much disfavor as more recent ones on the smuggling of opium, are still in force, involving seizure and confiscation of the cargo, and not infrequently the vessel, so that the little real Chinese rice exported is practically smuggled out of the country. As may be inferred, most of the rice handled here comes from Bangkok and Saigon, a little from Hai-Fong and Rangoon, but 95 per cent. from the first two places—from Saigon for 1890 about 6,500,000 piculs (1 picul=133 pounds), from Bangkok about 4,000,000, and 500,000 from other places for 1890. The advance in price so far is from 10 to 15 per cent. per picul. About 80 per cent. of the rice received is taken to Canton, 4 per cent. to the United States and Australia, and what remains after the supply necessary for the support of her two hundred and odd thousand Chinese population in Hongkong is sent to Macan and Japan, the latter country having already for this year received 1,000,000 piculs.

That shipped to the United States and Australia is principally Chinese rice of the best quality. It may be said that all the rice received in Hongkong is unclean, with the exception of that brought from China, the average of paddy being about 20 per cent. It is prepared for market here, with the exception of that shipped to Canton, which, owing to the cheapness of labor in comparison with Hongkong, is cleaned there.

The cost of cleaning is 25 cents (Mexican) per picul, one man doing about 2½ piculs a day. The process is slow and the labor most harassing. It is first run through hand sieves to separate the paddy from the grain, the latter to be treated as described further on. The paddy is first run through a machine made of wood, shaped not unlike a set of millstones, both sawed from a log about 3 feet in diameter. Into the face of the under block, and flush with it, is let a circular stone of a diameter to leave a 5-inch rim of wood. This stone is opposed to an opening or eye in the upper block of a like diameter, into which is fitted a board perforated at the periphery. The opposing surfaces of the two blocks are cut into grooves three-eighths of an inch wide, one-fourth of an inch in depth, and about the same distance apart, the intervening ridges of wood being carefully trimmed every 3 hours, in order to be kept sufficiently sharp. The upper block is dragged round by means of a hook at the end of a wooden handle fastened to a staple driven into the rim, a single workman turning it and at the same time feeding the machine by throwing the paddy with a wooden paddle into the eye, from which it is distributed outward by the centrifugal force. This breaks and loosens the husk from the kernel, after which it is run through a fanning mill constructed with about the same regard to mechanics as the rudimentary machines described above.

The grain, divested of husk, is now ready for the scouring process, which is done in stone mortars holding, perhaps, a bushel. These are set into stonework level with the floor at an angle of about 30 degrees, twenty or more being distributed about, according to the size and shape of the room. A wooden framework is built over the mortars in such a way that a stone pestle weighing 25 pounds, fixed to a beam 5 feet long pressing over a fulcrum, is rapidly dropped upon the grain. This is accomplished by a workman, who steps quickly upon the short end of the lever and as quickly removes his weight when the pestle has been elevated to the highest point. The number of strokes considered necessary for this part of the process varies, with the kind of rice, from 2,000 to 4,000. Ashes made from rice husks to the amount of one-fourth of a pound are added to each mortar of grain at the beginning of the pounding and a second time when the pounding is half finished, the rice by this time having become quite warm.

It is now taken from the mortars to be sifted, after which it is replaced for foot-scouring, ashes being added for the third time. A barefooted workman, supported from falling by reclining in a kind of swing, treads in the most dependent part of the mortar, which causes a rapid movement of the rice. This is continued for from 30 to 40 minutes, when it is taken out and sifted and is now ready for market. A part of the dust, composed of ashes and disintegrated rice resulting from the scouring, is combined with 10 per cent. of salt and used in preserving vegetables. What remains is fed to swine. Crude as these appliances are, they accomplish the work with the least breaking and crushing of the grain possible, and, no doubt, comprise most of the principles upon which rice-cleaning machinery is or should be constructed.

Since improved machinery propelled by steam is in use in Bangkok and Saigon, the question naturally presents itself why it is not used here and in China. The rice merchants say that, owing to the cheapness of labor, it would not be profitable in Hongkong and would not be permitted in China, where a vast number of people find in that employment their only means of earning a living.

O. H. SIMONS,
Consul.

UNITED STATES CONSULATE,
Hongkong, October 23, 1890.

IMPORTS OF RICE AT MATANZAS.

REPORT BY CONSUL PIERCE.

I have the honor to inclose for the information of the Department an excerpt from the Avisador Comercial of the 11th instant, a paper published in Havana, purporting to be a true statement of the imports of rice into the port of Matanzas during the 5 fiscal years ended June 30, 1890.

In connection with same, I would state that the imports from Antwerp, Hamburg, and Liverpool, amounting in the aggregate to 39,427,998 kilogrammes, were shipped originally in the husk from India and cleaned in the ports named for reshipment.

This amount, with the 2,673,078 kilogrammes received direct from Rangoon, making a total of 42,101,076 kilogrammes out of a grand total of 42,181,526 kilogrammes, shows to what an extent the island is dependent on India for one of its chief food supplies. The residue (excepting only 130 kilogrammes of American rice received from New York) of 80,320 kilogrammes represents the imports into this port from Spain of Spanish rice, and when it is considered that this extends over 5 years the insignificance of the commerce in this article with the mother country will be apparent. I have no doubt that a similar statement from other ports of Cuba would show a like state of rice imports. The very large importation from Liverpool under the Spanish flag is explained by the fact that there are several large British-built freight steamers, with Spanish register, plying between the United Kingdom and this island.

FRANK H. PIERCE,
Consul.

UNITED STATES CONSULATE,
Matanzas, December 15, 1890.

RICE IN INDIA.

REPORT BY CONSUL-GENERAL MERRILL, OF CALCUTTA.

As there are fourteen hundred varieties of rice in India, it is not a matter for surprise that this valuable article of food should be planted and reaped each month of the year. The staple crop, however, is sown from April to June, transplanted from June to August, and gathered from November to January.

Since rice is almost the only food of millions of the inhabitants, and as there is an export duty on it, comparatively little goes to foreign countries. The figures appended show the entire amount exported from the various presidencies and provinces of British India for the years ended March 31, 1889 and 1890.

From—	1889.	1890.
	Cwts.	*Cwts.*
Bengal	6,417,006	5,992,486
Bombay	589,384	798,971
Sinde	19,347	69,828
Madras	1,537,727	1,654,447
Burmah	14,204,765	18,258,519
Total	22,768,229	26,774,251

As this consulate-general is only in communication with the districts on either side of the Bay of Bengal, the information collected is necessarily confined to the province of Burmah and the presidencies of Bengal and Madras.

In Madras there were 1,253,900 acres planted in rice last year and 1,272,100 acres this year. Almost this whole product is consumed by the inhabitants, the amount exported yearly running from 100,000 to 160,000 cwts. The rains have been general, and everything seems to favor a crop equal to the excellent one of last year. Shipment of what little is exported begins in February, and the prospect is that there will be fully as much as usual for this purpose. Of course, it is quite impossible at this early date to compare the quality with last year's crop, but everything gives promise of its being above the average.

In Burmah last year the acreage was 3,917,987 and this year it is 3,380,861. Last year's crop was very large and would have been an exceptionally fine one had not unseasonable rains in February damaged much of it while lying out. A large quantity deemed unfit for the European market was shipped to the Straits Settlements.

The total amount sent out of the country from January 1 to October 25, 1890, was 3,244,880 cwts. more than was shipped in the entire year 1889. The following table shows the quantity of last year's crop exported from the ports of Burmah up to October 25, 1890:

From—	To—		Total.
	Europe.	America, Straits, China, Japan, etc.	
	Cwts.	*Cwts.*	*Cwts.*
Rangoon	8,050,000	8,291,960	16,341,960
Akyab	2,615,920	1,140,500	3,756,420
Bassein	2,791,680	280,640	3,072,320
Maulmain	423,300	870,360	1,293,660
Total	13,880,900	10,583,460	24,464,360

Of this, there were sent to South America 892,000 cwts. and to the United States 4,000 cwts. The total exports for 1889 were 21,219,480 cwts., being 3,244,880 cwts. less than have been exported thus far in 1890.

The decrease in acreage this year, as compared with the last, is due to floods and to the mortality among cattle used for plowing in Bassein and Maulmain. The probabilities at present are that the amount exported from Burmah in 1891 will be less than in 1890, but that the quality will be better.

In Bengal vast districts are devoted to the cultivation of winter rice, amounting in 1889 to 32,351,032 acres and this year to 32,834,432 acres. On account of floods from which certain parts of this presidency suffered during last summer it is thought the crop of this year will not equal in quantity that of 1889. Most of the districts, however, have been favored with frequent and not too copious showers, with a cessation at the proper time, and everything gives promise of an excellent product. On account of the superior character of the grain and the increased acreage it is quite possible that the growing crop will be equal in value to that of last year, but it is probable a less amount will be exported.

The following statement shows the total quantity of rice exported from Bengal to Europe, South America, and the United States during the 10 months from January 1 to October 31, 1890:

	Cwts.
Europe	1,075,652
South America	346,719
United States	2,074

Repeated efforts to secure further information were unavailing.

SAMUEL MERRILL,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, November 26, 1890.

THE RICE CROP OF SIAM.

REPORT BY CONSUL-GENERAL CHILD, OF BANGKOK.

I have the honor to report that the crop for the year 1889 was a partial failure, owing to the lateness of the rains, and, in consequence, paddy (unhulled rice) became very scarce and commanded such a high price in the local market that many of the mills stopped running, because it was impossible to compete with rice from Java and Saigon.

The following table shows the output for the last 5 years, from which it will be seen that the export in 1889 was 46,501 tons less than in 1888, the total export in 1889 being 303,088 tons, of which 69,619 tons were sent to Europe:

Year.	Quantity.	Value.
	Tons.	
1885	217,179	£980,864
1886	215,387	1,090,489
1887	402,016	1,918,783
1888	449,446	2,104,849
1889	303,088	1,443,328

Much of the rice shipped from Bangkok to Hongkong during the year 1889 found its way to California, owing to the failure of the crop in Japan, from which country America receives a large supply.

There were no direct shipments to the United States during the last year, but several cargoes were dispatched by sailing vessels to Vancouver.

The present year's crop will undoubtedly be the largest that the country has ever raised, as the season has been perfect, owing to the equable rainfall.

The export of rice for the first 6 months of this year has far exceeded the average, and the export for 1890 may safely be put down at 550,000 tons.

The following table shows the export of rice for the month of September, 1890, as compared with the same month of the year 1889:

Month.	Nasüen rice.	Broken rice.	Paddy.
	*Piculs.**	*Piculs.**	*Piculs.**
September, 1890	685,203	7,833	374
September, 1889	418,577	5,609	2,641
Increase	266,626	2,224	
Decrease			2,267

* 1 picul is equal to 133⅓ English pounds.

The great bulk of the rice exported is mill-cleaned Nasüen, and the value per picul, as entered at the custom-house by the exporters during last month, was as follows: Mill-cleaned Nasüen, $1.80 (Mexican); broken rice, 90 cents; and paddy, $1.10.

Siamese rice is divided into two classes—Nasüen and Namüang. The former is sown and afterwards transplanted, while the latter is scattered over the field and allowed to come up without further care.

The buying price in Bangkok of the Nasüen paddy is at present $24 (Mexican) per coyan.*

By a comparison with the former table it will be seen that the miller buys at $1.26 per picul and sells at $1.80, thus having a margin of 54 cents profit per picul, from which must be deducted the cost of milling and bagging.

The milling and export of rice gives a larger return of profit for the capital invested than any other industry in Siam. It is not, therefore, to be wondered at that rice mills are always in process of construction here. At present there are in Bangkok 23 steam rice mills, of which 17 are in the hands of Chinese. Eight new Chinese mills were erected during the year 1889 and 2 British. During the present year 2 new mills have been erected and 3 more are being built.

There are now 5 mills in Bangkok which produce white rice, but the great bulk of the export is mill-cleaned rice containing 20 per cent. of paddy. It is shipped in this form, as the cargo keeps much better than when every grain is hulled.

The most modern machinery is used in the mills, and, although the owners in a majority of cases are Chinese and are very close in business matters, yet they hire the very best European engineers.

The fuel of the mills consists entirely of the husks of the rice, which are consumed in specially built husk furnaces.

Many of the mills are lighted by electricity and employ two sets of men, by which they are enabled to run day and night.

In conclusion, let me say that in the near future Siam's annual export of this most valuable cereal will be wonderfully increased, as the country is now about to be opened up by the construction of railroads, which will bring vast sections of country which were formerly uncultivated into connection with the market at Bangkok. At present not one-tenth of the available acreage of the country is under cultivation, and we can confidently expect to see the export increased trebly or fourfold within a few years.

There is no scarcity of labor. All that is needed is access to market, and this the railroads will soon furnish and cause Siam to be one of the largest rice-producing countries in the world.

JACOB T. CHILD,
Consul-General.

United States Consulate-General,
Bangkok, October 22, 1890.

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* 1 coyan is equivalent to 26 piculs, or about 100 bushels, and yields 19 piculs of cleaned rice.

PROFIT-SHARING.

REPORT BY CONSUL-GENERAL NEW, OF LONDON.

I have the honor to inclose herewith a copy of a report on profit-sharing made by Mr. J. Lowry Whittle, of the British patent office, and presented to Parliament by the board of trade.

JOHN C. NEW,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, February 11, 1891.

PROFIT-SHARING.

[Inclosure in Consul-General New's report.]

To the Assistant Secretary, Commercial Department, Board of Trade:

SIR: In compliance with the instructions of the president of the board of trade, conveyed to me by you on the 28th of April, 1890, I have the honor to submit the following observations on the practice and development of the system known as "profit-sharing" in connection with wages in industrial enterprise.

The term profit-sharing has found such general acceptance in recent years that for the purposes of this report it is adopted in preference to industrial coöperation, industrial partnership, class coöperation, and many names which have been suggested from time to time. This term profit-sharing is here employed to describe various business arrangements, all having this principle in common, that the people engaged in the concern, or an appreciable portion of these workers, shall receive, in addition to their salary or wages, some pecuniary advantage, prospective or immediate, to be paid out of the net profits in any year in which net profits are made.

CHIEF FORMS OF PROFIT-SHARING.

This advantage is received in many forms:

(*a*) In some cases it is given as a gift or thank offering to the workers, or a portion of them, for the success of the year, a gift popularly described as a bonus.

(*b*) In others a definite part of the profits is paid over to a provident fund for the benefit of each participating workman in cases of sickness or old age.

(*c*) In a large number of instances this share allotted to labor as extra wages is set aside to secure the workman an opportunity of becoming a joint owner in the business of which his labor has contributed to increase the income.

(*d*) In others, again, each workman receives out of the net profits a cash payment, determined by the proportion of each man's contribution in labor to the total amount of labor done.

In all these cases, where the scheme is settled in due time and made fully known to the employés, each workman is, so to say, invited to consider his own labor as an improvable quantity—an item in the business enterprise which his own will may render more useful to the general result—to look to a reward for this extra contribution beyond the labor paid for by wages in a share of the profits at the end of the year.

GENERAL HISTORY OF MOVEMENT.

Profit-sharing, under various regulations, was brought into operation in France about 1848. These schemes attained some popularity in England about 20 years later. In France the results have been substantial. Over 81 firms, representing a great variety of commercial enterprises, are stated to have adopted this policy in one form or another. Several have practiced it for above 40 years, and represent many thousand employés. The system has had considerable success in Switzerland, and in later times its teachers have found numerous disciples in the United States.

SUGGESTED RESULTS.

In many of the establishments where profit-sharing has been practiced a considerable increase of profit has accompanied the development of the policy, and it is the contention of its advocates, like M. Leclaire and M. Laroche-Joubert, that where it is in operation the money set aside for the benefit of labor is not any transfer of cash from the pockets of the employers to those of the employés. It is paid out of a fund which owes its existence to the profit-sharing system. The evidence on this subject of many who have tried profit-sharing will be stated later on. Here it will be sufficient to point out that this additional profit is supposed to arise from five sources:

(1) Reduction of waste material.

(2) Superior excellence in the work done.

(3) Diminished expense of superintendence.

(4) Greater stability in the staff and consequential reduction of risk in commercial enterprise.

(5) Increase of practical information connected with the business, the workers being stimulated to aid the managing staff with suggestions as to improvements and information as to new processes.

The first two considerations directly affect the outturn, the third and fourth the cost of production, whilst the fifth has relation to the general progress of the business.

GREAT VARIETY IN THE COMBINATIONS.

The portion of this fund accruing to the actual worker may, as we have seen, reach him in various ways. It may be paid him directly in cash, as in (*a*) and (*d*), or it may be put to his credit with a view of securing him a share in the capital of the firm, as in (*c*), or it may be a deferred benefit for sickness or old age, as in (*b*). Sometimes we find the additional remuneration to labor secured by a combination of the methods (*b*) and (*d*), or of (*b*) and (*c*), or of (*c*) and (*d*), or again of all three.

The different modes of profit-sharing already enumerated have in various ways, if we may rely on the evidence of capitalists who have tried them for years, developed a higher order of efficiency in the workman, have produced larger profits and better relations among all concerned in the business, and the choice of one or another of them in any particular case seems to depend upon such considerations as the nature of the business and the economic and intellectual condition of the workmen to be called into partnership. If they are thrifty, saving men, the opening to them the chance of securing shares in the firm by giving them the right of purchase, the aiding them by a division of profits to accumulate the necessary capital are ample means for the purposes in view. If, on the other hand, the workers are poor men living from hand to mouth, who have not hitherto saved any money, whose thoughts have never been directed to saving or to the occupation of a capitalist, the prospect of gradually building up a right to a share is too remote and nebulous to produce the desired effect of stirring the energies of the workman, whilst the assurance of an additional sum in hand to meet the winter expenses of living is something of which the advantage can be easily understood.

Bonus form (*a*).—Defective as the bonus system is considered by writers on this subject, defective as it is in comparison with such perfectly organized machinery for securing at once excellence of work, remuneration, and comfort to the workman, as we find in some of the French profit-sharing firms, this practice is not to be despised as a preliminary stage. It draws closer the bonds of sympathy and interest between the employer and his people. It gives the workman a pecuniary interest in the prosperity of the house, and thus quickens his observation of the signs of prosperity of the mechanism of the business of which he is a part. M.

Leclaire, who may be considered the inventor of profit-sharing as we are now considering it, himself tells us that he began on this system, giving presents and extra pay to his best workmen. A large number of the houses popularly described as practicing profit-sharing are only, strictly speaking, at this earlier stage.

The Piat Iron Foundry, at Paris and Soissons, has for some years adopted a system of bonus. In this case very happy relations existed between the employer and his people. Benefit societies were formed many years ago, and the funds of these institutions received liberal donations from the house. In 1881 M. Piat announced that a portion of the net profits would be distributed each year among workmen who had been 5 years in his service. What this portion shall be is a matter which M. Piat decides for himself; but, as long as there are profits, the workman knows that he is to have a share, and it has varied from 8½ per cent. of wages in 1882 to 3 per cent. in 1885 and was 4 per cent. in 1889. During these 8 years £6,595 has been distributed on this system. The number of participants has steadily increased from 145 in 1882 to 206 in 1889. The benefit societies and kindred institutions connected with this firm for 40 years past give the workman many reasons besides his wages for wishing well to it and desiring to continue in the service; but M. Piat, in conversation, expressed his thorough conviction that the bonus system, which is of comparatively recent introduction, had produced direct results, not only moral, but material. He dwelt particularly on the actual improvement in the work done. The report of his firm to the Paris Exhibition of 1889 concludes: "M. Piat is able to say that the honors given his house at international exhibitions are, in a great part, due to this system."

The preserve factory of Mr. Hartley, at Liverpool, is an English illustration of this mode of interesting employés. Mr. Hartley has always sought to maintain relations of paternal benevolence with his work people, numbering over 1,000. His factory is a model of salubrity. A well-arranged apartment is provided, where 500 persons can have their meals cooked and consume them in comfort. All the arrangements of this establishment indicate an employer who has been anxious that his prosperity should redound to the well-being of his work people. Three years ago he announced his intention to set aside a portion of the profits each year, to be distributed amongst the most deserving of the workers in such sums as he and his managers might determine, and this system, he finds, has stimulated the interest of the workers in the concern.

This simpler form of profit-sharing has long prevailed in many large establishments throughout this Kingdom as regards the managing staff. The number of cases in which it has been extended so as to include a portion of the ordinary laborers is increasing every day. It is practically, in a less definite form, what M. Leclaire tells us his system was in the beginning.

The bonus system is in many cases the chrysalis stage of profit-sharing.

Provident fund form (*b*).—The simplest plan of profit-sharing by way of a provident fund, as in form (*b*), is that advocated by M. de Courcy and applied in the Compagnie d'Assurances Générales. Five per cent. of the profits are set aside every year to form a fund upon which every employé, after 12 months' service, has a claim in the proportion of his year's salary to the total amount of profits set aside. Every year the portion of the profits accruing to each worker is added to the fund and accumulates at compound interest until the employé has worked 25 years for the house or is 65 years old. He can then invest the sum standing to his credit in such securities as he may select, but until then he can not interfere with the accumulation. On this system the average annual credit to each employé from 1885 to 1887 was over 32¼ per cent. of wages.

In the case of M. Deberny & Co., type-founders, of Paris, we have M. de Courcy's plan applied to workers of very different training and habits. For some 40 years this firm has pursued one system or another of profit-sharing, and for the last 18 years the share of labor has been assigned to a provident fund. Every employé is entitled to some portion of the dividend on labor, and these portions are paid over to a mutual aid fund, which is the property, in certain proportions, of all the participants. This fund secures pensions varying in amount according to the sum standing to the credit of the pensioner. From 1880 to 1882 the sums accruing to the fund in annual dividend amounted to 17 per cent. of the net profits and to 7½ per cent. on the wages.

The practice adopted by Messrs. Cassell for some time in this country has some resemblance to that of M. Deberny. When the firm was converted into a limited company in 1883 there was in existence a considerable provident fund for securing pensions to the employés. This fund had been formed partly by gifts of retired partners, partly by a percentage of profits; and the articles of the new association provided that, after suitable additions to the reserve fund and payment of 5 per cent. on capital, 5 per cent. of the remaining profits should henceforth be paid over to the fund. Under this arrangement the annual payments have averaged £914 1*s.* Every employé, after 5 years' service, acquires a claim in case of his death whilst in the service of the firm, the amount due to his family varying according to the length of his service. After providing for the claims of each year, the balance of income is invested in the stock of the company. In 1889 the qualified employés had claims on a provident fund of over £9,000.

Form (*c*).—Of the third, or stock, system of profit-sharing the iron foundry of Messrs. Godin, at Guise, is, as at present constituted, the most noted example. We have there a concern employing nearly 1,600 hands, and profit-sharing has been in operation under different forms since 1877, with the result that in 1889 961 employés received additions to their wages. The Godin system began, like that of Leclaire, in a bonus. It then passed into a cash payment, and, on the firm being converted into a limited company, the additional gain to labor was given in the form of accumulation towards the purchase of shares. Of the net profits, 25 per cent. goes to a reserve fund, 25 per cent. to a bonus to management, and 50 per cent. is allotted to capital and to labor as extra profit to each, the proportion between the two being determined by the respective amounts paid in interest and in wages. In 1880 the sum paid in interest on capital was £9,200; that in wages, £75,520. Thus a very substantial part of the net profits goes for the benefit of the laborer, and these profits are accumulated so as to secure the participant a share in the company.

The achievements of M. Godin are of such high importance for many questions affecting the relations of capital and labor that some further notice of his work as bearing on the present subject is here necessary. Starting with very small resources, having no local advantages except proximity of coal supply, dealing with a labor supply of the rudest sort, he has converted an obscure village into a great seat of manufacture. The success of his celebrated foundry has overflowed for the good of others. Attracted by the surplus female labor of his metal-working population, capital has flowed in and yarn mills are springing up around him. Out of a squalid, ignorant peasantry he has produced an industrial community with the discipline of a regiment and the commercial alertness of the market place; but, although the opinions of M. Dequenne, the present chief of the concern, on the economic results are most important for the purpose of this report, and the rules of this famous establishment throw light on particular points, it is not intended to examine here in detail the system at work at Guise.

M. Godin began with a laboring population in an economic condition very different from that to which a large proportion of the British laboring classes engaged in trade and manufacture have attained. It was possible, almost necessary, for M. Godin to take charge of his workmen as a father and to guide them with judgment and sympathy in all the relations of life from the cradle to the grave; but this affectionate supervision it seems very doubtful whether our workmen would recognize as an advantage, even did the temper of our national life give them the opportunity. I will therefore refer you for a fuller account of this interesting place to the work of M. Bernardot, to the excellent summary of the institutions at Guise in M. Robert's forthcoming report, and to the other authorities mentioned in the appendix.

I would only point out here, in reference to the particular subject on which I have cited the practice of this renowned establishment, namely, the distribution of profits by way of shares, that this form of profit-sharing was adopted after long experience of other forms. There was first the bonus; there was the most liberal and far-reaching system of benefit societies; there was for many years the payment in cash. By these various expedients M. Godin trained his people to become his fellow-shareholders. He abandoned the payment in cash, as in form (*c*), because, taken with the other parts of his system, it had prepared the way for one more satisfactory. As evidence of the practical way in which this stock system is connected with actual work at Guise, it may be mentioned that in 1880 the number of workers who shared in the profits was 550; in 1888 it had risen to 961.

An examination of the English examples of profit-sharing will show that the stock system was long the one most popular in those cases where profit-sharing has been introduced into existing business concerns.

The Woodhouse mills is a familiar illustration. An old-established firm engaged in the manufacture of woolen and worsted goods was converted into a limited company with £1 shares. The interest on capital, whether loan or share, is fixed at 10 per cent. Of the net profits, after payment of interest, 10 per cent. goes to a reserve fund, 40 per cent. to be disposed of as the managers think best in rewards for special services or allowance on custom, 50 per cent. to a dividend on labor, and the portion going to each workman is placed to his account as share capital.

In the association formed some years ago by Messrs. Joshua Hoyle & Sons we have another effort to arrive at the results of the stock system—the giving the workman a direct share in the profits of the concern. This firm, then the property of two partners, was in 1873 converted into a limited company "with the primary design," as the articles of association tell us, "of admitting the work people in the company's employ from time to time to become shareholders, and thus to participate in the profits of the concern."

The 31,200 shares of £7 10*s*. (£5 paid) were divided into two classes, 23,400 to be called "retained shares," and representing the interests of the two partners in the original firm. These partners became governing directors of the new company and were "to retain the full and supreme control in the management of the company's business and affairs." The other 7,800 shares are called "industrial partnership shares," and of these anyone in the employ of the company might become a holder. He either paid the calls in cash as they fell due or the firm credited him with the amount, charging 5 per cent. interest. Thus, if the net profits allowed of a dividend at the rate of 10 per cent. or 10*s*. on each paid-up share, the workman would get a benefit of 5*s*. on each share allotted him, and the firm believed that this giving away of the right to profits would be fully made up to them by the increased energy and contentment of their employés. The scheme made considerable progress during the more prosperous period of the cotton trade, and at one time 2,412 of the industrial partnership shares were held by employés; but, with reduced dividends, its popularity waned. It is still, however, in operation, and 707 of these small shares in this great establishment are now held by those engaged in the business, seventeen of the holders being engaged in manual labor at wages averaging 25*s*. a week.

The articles of association are an interesting record of an attempt to apply profit-sharing to the larger forms of commercial enterprise. Very careful and full precautions are taken to secure the authority of the directorate. Full provision, too, is made that the industrial partnership shares shall always be held in connection with actual work in the concern. If a workman holder wishes to sell, he can either sell to the governing directors or to some one approved by them, who, if not a workman, is a trustee for the share until they nominate a workman willing to pay its market value.

The firm of Messrs. Tangye Bros., of Birmingham, is another illustration of an effort to arrive at something like the stock system. They have always had the most pleasant relations with their employés. They have established various institutions for their benefit—mess rooms, schools, sick funds—some entirely at the expense of the firm and others mainly supported by them, and about 7 years ago they began a system of partnership for employés. To each of a certain number of their work people a £50 bond was issued binding the firm to pay to the workman interest on this sum at a certain rate. In the case of the death of the workman during the year, his family obtain the amount, £50 in cash. This is, however, rather a fixed bonus or system of rewards than profit-sharing properly so called, as the bonds impose the payment of interest irrespective of any profits.

The policy of the Godin firm is that the workmen shall gradually become owners of the business. This object is kept in view on the Leclaire system; but there it is carried out by means of the provident society, which is a corporate body representing the workmen, and recruited from the ranks of the workmen, and exercising the rights and authority of a partner subject to certain qualifications.

This stock system has been objected to by many, who contend that the object of profit-sharing should be, not to increase the number of capitalists, but to secure better relations between capital and labor. Such criticism, however, raises the question whether, in cases where this mode of remuneration is practicable, any better way of improving the relations between employer and employé is likely to be found than that of making the laborers joint owners of the concern. Where such an achievement is possible, we may be sure that the relations between the capitalist employer and the employed are not likely to be of a very unpleasant kind.

Given workmen with savings to invest or the credit to obtain money to purchase shares, good must, on the whole, result from this process of investment by the laborers in the business, as long as the investment is actually going on; but, if this system is to operate permanently on the relations between the workman and the employer, the ownership of the shares must be expressly connected with employment in the firm. In many instances, as in those of Messrs. Hoyle, M. Laroche-Joubert, and others, on the workman eventually dying or retiring from work his share becomes purchasable either by the firm or by some fund partly owned by the firm and the workmen, but always so as to be available for some workman to come after, and thus the stock system is secured a permanent influence on the relations of labor and capital. In the Hoyle rule 125 are contained provisions for ascertaining the proper value of such shares at any particular date.

Cash payment form (*d*).—In connection with the fourth form of profit-sharing, denoted as (*d*), English readers naturally think of the celebrated scheme adopted at Messrs. Briggs's Whitwood collieries in 1864. The cash payment to labor has been long since abandoned, but the experiment deserves attention, not only on account of the interest it created at the time, but because it affords many useful suggestions as to the conditions in which such schemes may be usefully tried.

When the concern was converted into a limited company, a preference was given to employés of the firm in the allotment of one-third of the capital; but more remarkable than this provision to create a workman shareholder class was the rule that, whenever the net profits "shall exceed 10 per cent. on the capital embarked, all those employed by the company, whether as managers or agents at fixed salaries or as work people, shall receive one-half of such excess profit, * * * to be distributed amongst them in proportion to, and as a percentage upon, their respective earnings during the year in which such profits shall have accrued." This distribution was to be made in cash.

The scheme excited attention all over the world, and continued in operation until 1875, when it was finally abandoned so far as the percentage on wages was concerned. During these 9 years £34,000 had been distributed in percentage on wages, and the coal trade had undergone the most remarkable vicissitudes. Much difference of opinion arose as to the mode of ascertaining the net profits. The whole scheme was new and the conditions of business exceptional, while there had not previously existed between the proprietors and the work people those relations of personal knowledge and mutual confidence which have hitherto been the invariable antecedents of any successful adoption of such arrangements. The coal-mining population from 1868 to 1873 was one of the most fluctuating in all England, while the admission of new shareholders into Messrs. Briggs's firm brought in an employing element without either special experience of the business or confidence in the new policy.

One of the best examples of this kind of profit-sharing is the paper manufacture of M. Laroche-Joubert. In this concern, as in that of M. Godin, we have a large manufacturing business which began, just as his did, from small resources. Its capital is now nearly £200,-

000, and it gives employment to some 1,500 persons. It has practiced profit-sharing for nearly 40 years, and one of its special characteristics is that the whole of the dividend is payable in cash. Provision is made for the admission of workmen shareholders, and nearly a quarter of the shares now belong to people engaged in the business and not being the managing directors; but M. Edmond Laroche-Joubert made it a point of principle that the share of the net profits assigned as dividend on labor should be paid without any further restriction or qualification, it being left to the providence and good sense of the workman to say how the cash was to be applied, whether in the purchase of shares in the firm or otherwise. The mode of distribution is somewhat elaborate, but, as in this firm we are dealing with an establishment which differs from the Maison Leclaire in the large proportion which the capital engaged bears to the cost of labor, these rules deserve careful examination.

The gross profits are charged, first, with 5 per cent. to capital; secondly, with 5 per cent. for depreciation; thirdly, with a contribution to a special reserve fund not to exceed £600. Of the balance of profit remaining, 5 per cent. goes to a general reserve fund, 20 per cent. as additional profit to capital, 17 per cent. to the managing directors in addition to their salary paid among the ordinary expenses, and 58 per cent. for division among the rest of the staff and a certain number of customers. The first charge on this balance is a dividend on the custom of certain French houses, which up to 1882 amounted to about one-fifth of the balance. Of the other four-fifths, one-quarter, or 25 per cent., of this latter fund goes as extra payment, according to wages, to everyone who has been one year in the firm and is over 15 years of age. The other 75 per cent. is assigned—35 per cent. to the commercial departments and 40 per cent. to the mills and factories.

Thus, assuming, for purposes of illustration, that the 58 per cent. of the net profits amounts to £5,000, £1,000 of this sum would go as dividend to custom, £1,000 more as a first distribution to labor, £1,400 as a further dividend to be distributed according to the rules adopted in the commercial departments, £1,600 for distribution according to the rules applying to the mills.

The first of these distributions—the 25 per cent. of the balance after percentage to custom—is made at large throughout all branches of the business on the basis of wages, but with an additional share for each workman who has given 5 years of service. Thus a man earning 1,000 francs has his wages after 5 years calculated, for the purpose of distribution, at 1,250 francs; after 10 years' service, at 1,500 francs, and so on until the workman is over 50 years old (rule 13).

The lump sums assigned to the separate branches of the business are distributed among each mill and warehouse under special rules, framed with the view of rewarding management and labor in accordance with the relative importance of the one or the other in particular sections of the work. Of these sums allotted to the branch establishments a certain portion, varying from 10 per cent. in the sale branches (rule 4) to 50 per cent. in the packing-paper rooms, is first of all distributed in proportion to salary to all persons employed in each mill or warehouse, and this is in addition to the general dividend of 25 per cent. of the net profits declared in the first instance. The balances of these separate funds are distributed between the superintending staff and the foremen in proportions varying in each section.

The elaborateness of these rules has been a frequent subject of criticism, and in 1876, and again in 1883, M. Edmond Laroche-Joubert defended them before public commissions as guarantying to each of his coöperating workmen their due share. M. Edgard Laroche-Joubert entertains the same view and assures me that, whilst their operation is fully understood by the work people, they involve no practical difficulties of bookkeeping, neither controversy nor expense.

The Angoulême firm is the more remarkable in this respect, that, whilst the workmen and their children have many advantages provided by the liberality of the Laroche-Joubert family, they are not as a body tied to the firm, except as far as kindly association and a sense of their own interest may bind them. In this establishment, as in that of Messrs. Hoyle, a certain number of the shares is set apart to be purchased by such of the workmen as choose this investment, and a large proportion of the stock is held by the employés on special conditions, excluding them from any right to interfere in the management; but the participating workman who chooses to make provision for old age in the ordinary way invests his money in the local aid societies which exist in the department of Charente quite independent of the firm. If, therefore, he is not fortunate enough to be a workman shareholder, he has the option to improve his position elsewhere, should the opportunity arise, without losing any advantage his providence may have secured by the investment of the dividends on his wages. His liberty of action is complete. The sums paid in cash to employés amounted from 1882 to 1884 to £7,463 a year, dividends on wages being from 6 to 11 per cent. During the 10 years from 1879 to 1888, inclusive, £44,880 were paid in dividend on wages.

Among all the founders of profit-sharing the labors of M. Leclaire, house painter and decorator of Paris, have been the most celebrated, not only for the results, but for the wisdom with which the various methods have been applied. This famous establishment in its present development combines at once the cash payment in a very extended application, the provident fund, and the stock system.

Leclaire began by paying extra wages to good workmen. He then gave bonuses to a few, and next he gathered the best of his work people into a provident society. This was as early as 1838. Two years afterwards he tried to feel his way towards a distribution of profits, maintaining that the sum distributed would be fully supplied by the increase in the profits consequent on the new system. Meanwhile he raised wages and reduced the length of the day's work. In February, 1842, he pledged himself to divide a portion of the profits of the coming year among a certain number of the workmen, members of the friendly society. This society, as originally constituted, was a kind of tontine. It tested in the first instance the self-denial of the workmen, who could postpone an immediate expenditure for a future profit, and the influence of M. Leclaire ultimately converted it into the more healthy form of a benefit society, providing pension for old age. In all these early stages we find him working to attain the first condition of success in these schemes—the confidence of his employés.

In the following February M. Leclaire presented £490 as the sum to be distributed among the 44 workmen who participated. In 1847 the number of workmen admitted had more than doubled, and the sum available for distribution had risen from £490 to over £800. There was an annual average distribution among the workmen of over £750, with the result of an average distribution to each workman of over £9 a head.

According to the present organization of the Leclaire firm, 5 per cent. on the capital of 400,000 francs is deducted, like wages, from the gross profits, in order to find the net profits. Of these, 50 per cent. goes as reward to labor in cash, 25 per cent. as a reward to management, and 25 per cent. to a great provident society, which by the liberality of M. Leclaire has become half owner of the capital of the firm.

M. Leclaire continued his labors and in subsequent years carried the principle of a cash dividend on wages so far that since 1870 any workman called in for a single day will have to his credit at the end of the year some addition to his pay (M. Marquot). It is not within the scope of this report to discuss his various plans for raising the moral and intellectual character of his employés. We may judge his work by the test which he would have himself preferred—the amount of additional cash profit which has accrued to labor.

In 1870 the number of participants was 758, and the dividend on labor £2,465, or 14 per cent. on annual wages. The business of the firm advanced rapidly in the following years, and in 1884 824 workmen shared in a distribution of £9,200, or nearly 24 per cent. on their wages. In subsequent years this house has suffered from the bad times and the profits have not been so high, but in 1889, M. Redouly informs me, the dividend in wages paid in cash was £9,120. To his courtesy I am indebted for the table of profits to a recent date given in Appendix C.

During the 10 years from 1875 to 1884 the profits of the firm and the percentage to labor advanced without interruption; 1,718,250 francs were paid away in cash, but at the same time 859,125 francs went to the coffers of the great association, who are practically joint owners with M. Redouly and his partner, and would be so much capital available if required to meet emergencies in the less prosperous times which followed upon 1884. We have thus in the Leclaire system, even in its most highly developed form in favor of the direct payment to labor, an indirect combination with the shareholding system.

There can be no doubt of the practical success which profit-sharing has attained in this particular case, and for establishments of a like nature the history of this firm has many lessons. Professor Böhmert, however, suggests many considerations which should warn us not to draw too wide conclusions from M. Leclaire's great achievements. The business of the house is chiefly hand work. The goods required, such as colors and brushes, are hardly one-fifth of the outlay; the other four-fifths all goes in wages. The staff is engaged in groups of 8 or 10 at some sixty or eighty different places. On the other hand, Leclaire was at a great disadvantage over the larger establishments already referred to in the fact of a long, slack season. Nearly a third of the people who benefit by the dividend on wages are only employed during the summer and have many years to wait in order to become members of the permanent staff. Even with these work people, M. Redouly tells me, the system has excellent results. They find winter employment more readily and return to work at the right season

One of the reasons why his work is specially valued by the world at large is that, while animated by a generous spirit of benevolence, he never forgot the teachings of practical business. He declined to follow his philanthropic impulse until careful observation had assured him of a practical result. We have, consequently, in the history of his firm the best illustration of what may be done under certain conditions to promote coöperation between employers and employés. What these conditions were in the case of this particular firm must, however, be kept in mind. There was first of all the great personality of M. Leclaire; there was next the large proportion which labor contributed to the cost of the outturn of the business.

Whilst this report was going through the press, M. Marquot, M. Leclaire's old secretary, passed away, and in supplying his place in the management M. Redouly, the surviving partner, has obtained the consent of his colleagues to double the capital engaged, he and the benefit society each doubling their stake in the business and the other 25 per cent. of the capital engaged being supplied by two new partners instead of one. The total capital thus amounts to £32,000, with three managing directors. Whilst provision is thus made for the extending business of the firm, the principles laid down by the founder as regards the division of profits between capital or labor are strictly maintained.

Among the early and successful followers of M. Leclaire should be mentioned M. Goffinon, whose labors are now represented by the firm of Barbas, Tassart & Balas, plumbers and sanitary engineers. They employ about 150 people, and 5 per cent. of the net profits are allotted to all the employés. This has resulted in recent years in a dividend of 5 per cent. on the wages. One-half is paid in cash and the other goes to a provident fund. After this system had been in operation some time, M. Goffinon followed it up by establishing a rule imitated in many of the later English examples of profit-sharing—an expert accountant is called in to certify whether the scheme of profit-sharing has been carried out according to the plan announced.

Important in the history of this movement is the experience of the great publishing establishment of M. Chaix. There profit-sharing was brought into operation in 1872, and between then and 1890, M. Robert tells us, over £36,000 were distributed in dividend on labor. The rules of this establishment are simpler than those observed in many other French firms and contain many provisions remarkable for judgment and equity. The main portion of them is reprinted in Appendix B to this report.

These are but a few illustrations of successful profit-sharing systems in the native home of the theory, and, when these schemes are considered in connection with the great manufacturing industries of England and we see that in France profit-sharing has resulted in a dividend on wages paid amounting in recent years to between 20 and 24 per cent., the question will arise how far the systems which have shown such results in the paper mills of Laroche-Joubert, in the house-painting firm of Leclaire, in the printing establishment of Chaix, are available in our larger forms of industrial enterprise—our mines, our foundries, our cotton and wool factories.

RECENT ENGLISH SCHEMES.

In the English profit-sharing schemes of later date something in the form (*d*), a cash payment such as Messrs. Briggs provided, has generally been recognized as necessary to interest the workers in the plan. In the case of Messrs. Bushill, of Coventry, printers and stationers, a definite share of the profits, fixed for 3 years at a time, and termed the reserve limit, is stated to an actuary, this sum being appointed as sufficient to cover the remuneration of capital and of management, and the remainder of the net profits is distributed among the workers in proportion to the amount of their wages during the year. Of the dividend due to each worker, one-third part is paid in cash, whilst two-thirds is carried to his credit in a provident fund. If, however, this dividend exceeds 6 weeks' wages, the excess is carried to an employés' reserve fund, remaining in the hands of the firm at the rate of 4 per cent. interest. This fund in bad years may be applied towards the dividend, or, if it accumulates for 5 years, it is allotted to the provident funds connected with the establishment. Two years have elapsed since the scheme came into operation, and in each year a dividend, amounting to 6 weeks' wages to each hand, has been declared. In September last a further sum, amounting to 5 days' wages for each participant, was carried to the employés' reserve fund.

Messrs. Joyner & Co., chandelier manufacturers, of Birmingham, have recently adopted a system like Mr. Bushill's. There is a reserve limit; the balance of profits is paid partly in cash, partly to a provident fund.

In the case of Messrs. Hazell, Watson & Viney (limited), of London, we have another firm who have made a cash payment an essential feature of their scheme, and who, like Messrs. Bushill, have the enormous advantage over the proprietors of the Whitwood collieries, that they have hitherto enjoyed most amicable relations with their people. In many respects the efforts of the firm for the comfort and well-being of their employés recall the ambitious scheme of the Familistère, at Guise. The net profits, after provision for additions to the reserve fund and for a 10 per cent. dividend on capital, are allotted—50 per cent. as an additional profit to capital and 50 per cent. as a dividend on labor. Half of this labor share, or 25 per cent. of the whole, goes as a cash payment to each employé 3 years in the service of the firm, whilst the other 25 per cent. is paid to his credit in a provident fund. The trustees of this fund pay out of its revenue in every year such death and other claims as may arise and credit the residue of such revenue to the members respectively in proportion to their wages for the time being. This labor dividend has amounted for each of the last 2 years to £605 5*s.* 6*d.*, and the firm are of opinion that the arrangement has substantially contributed to maintain satisfactory relations between them and their work people. They have followed this arrangement up by providing for the purchase of shares by work people, but this is to be in addition to, not in substitution for, the labor dividend. Mr. Hazell said in 1889: "They did not pretend that the concern was a philanthropic institution. It was a business institution, carried on for business purposes; but they tried to act so that there should be no ill feeling between employer and employed, but thorough and complete heartiness and concord. They wanted all to have an abiding interest in the firm."

Messrs. Blundell, Spence & Co. (limited), of London and Hull, have applied the cash system for some years. After deductions for 5 per cent. interest on capital and for depreciation, 10 per cent. of the remaining profits constitutes a gratuity fund. One-fifth of this, or 2 per cent. of the ascertained profits, goes to the office staff; the other four-fifths, or 8 per cent. of the profits, goes as a dividend on wages. In March, 1890, this 10 per cent. amounted to £1,284 16*s.* and the 310 workmen participating received among them £1,035 13*s.* 2*d.*

Another case is that of Messrs. Goodall & Suddick, stationers, of Leeds. They employ about 300 persons, all of whom, if at work for 12 months, share in 18 per cent. of the net profits. These profits are ascertained after deduction of 5 per cent. on capital and 5 per cent. for depreciation. Of the net profits, 82 per cent. goes as additional remuneration to capital and 18 per cent. as a percentage payable on wages and salaries earned during the the calendar year. Of this labor fund, two-thirds goes to the heads of departments and one-third to the work people, payable in cash.

Among other recent followers of this system about whom information has been obtained may be mentioned the following:

Messrs. Rowntree, drapers, of Scarborough, have adopted a scheme of profit-sharing under which 98 of their staff participate partly in cash, partly in contributions to a provident fund. One-fifth of the net profits is set aside as an additional remuneration to labor and paid in cash. During the first experimental year the result was 1½ weeks' wages to each participant. One of the rules provides: "If the firm should put an end to the scheme, the provident funds of all the employés will become payable to them on the 31st of March following."

Messrs. W. D. & H. O. Wills, of Bristol, have recently applied profit-sharing in their tobacco factories, with the result that they paid in 1889 11¼ per cent. on the wages or salary of the year to about 1,000 employes.

Among their rules is the following:

"This is not to constitute a legal contract, or to give any right of examining our accounts or of knowing the rate of percentage set apart by us. * * * At the same time all parties may understand that (unless in the case of a mutual termination of existing arrangements) no change will be made by us in this respect without 6 months' notice, expiring on the 31st of December, so as to secure the bonus for all who worked in anticipation of it; and our auditors shall each year certify the sum to be set apart according to the percentage fixed by us."

The Southwark and Deptford Tramway Company, with over 100 employés, have adopted rules, of which article 5 provides: "A bonus will be given to the staff depending upon the result of the half-year's working as shown by the company's published accounts, as, for instance, when the company earns sufficient profit to show a dividend of 5 per cent., the men would receive 6*d.* in the £1 on the amount of their wages for the half year, or 1*s.* for the whole year, or, in other words, for every £1 profit earned by the company 1*s.* would be distributed amongst the employés. Thus, if the company earns £5,000 profit in the year, the amount payable to the staff would be £250." Thus, when the company pays 5 per cent. on capital, a man earning 4*s.* 6*d.* a day would receive £4 2*s.* at the end of the year, or about 11½ days' wages.

Messrs. Arrowsmith, publishers, of Bristol, have adopted a system based partly on amount of wages, partly on length of service. On this plan most of their work people received for 1889 a cash dividend amounting to about 3 weeks' wages.

A celebrated recent instance of profit-sharing is that of the South Metropolitan Gas Company last year. The workmen number about 3,500 during the winter season, the permanent staff being about 2,000. The company proposed that, if the men would sign an agreement to continue in its employment for 3 months or longer, every workman who so signed should become entitled to a percentage on his wages, regulated by the price charged for gas, on the sliding scale. By this scale the company is entitled to pay its shareholders a dividend of 10 per cent. when the price of gas is not above 3*s.* 6*d.*, and the shareholders may be paid an additional dividend of one-fourth of 1 per cent. for each reduction of 1*d.* per 1,000 feet. The price of gas has been for some time 2*s.* 3*d.*, but the workmen were offered 1 per cent. on their wages for every penny reduction below 2*s.* 8*d.* per 1,000 feet. Thus the men who have signed these agreements gain 5 per cent. on their wages.

Last June, when the first division took place, some 1,500 men earning weekly wages had qualified themselves to take advantage of the scheme, and the result was an additional payment to labor amounting to £5,377 8*s.* 7*d.*, whilst nearly £3,000 have been voluntarily deposited with the firm at interest. Since June nearly the whole number of men have come in for longer or shorter periods, according as they are on the permanent staff or engaged for the winter.

It may be contended that this offer is rather a liberality of the company than profit-sharing properly so called, but the conditions affecting the cost of gas alter from time to time, as, for instance, the price of coal, which has recently risen. If by this arrangement the company succeeds in avoiding or deferring an increase in price of gas, they will at once be able to secure some advantage from the system, and Mr. Livesey, the chairman, thinks there are many signs of such a result. There is greater diligence, suggestions for economizing expense are from time to time made by the men, and a new interest is shown in the work. There are results which, in his opinion, no mere skill in superintendence could bring about. In the appendixes will be found the text of the rules and the figures showing the working of the scheme to the present time.

A London firm engaged in the confectionery trade and paying over £30,000 in wages has this year adopted a very direct plan of profit-sharing. The net profits, after a dividend at 6 per cent. on the ordinary shares of the company, are divided into two parts, of which one is to go to the ordinary shareholders in augmentation of dividend; the other is to be a percentage on wages and salaries paid. All the recipients of wages and salaries who on the 31st of December last had been 1 year in the employment of the company shall receive this percentage in cash. The wages percentage accruing to persons not so qualified shall be invested in shares of the company, these shares to be set apart to form a provident and sick fund for the benefit of all persons in the employment of the firm. In this instance the managing director has dispensed with some of the preliminary steps adopted in other cases, such as the formation of a special grade among the employés equivalent to the "noyau" of M. Leclaire; but Messrs. Clarke, Nickolls & Coombs have this great advantage in their attempt, that they have long had the pleasantest relations with all their work people. Relying on this happy state of things, the management have confidently adopted one of the most liberal of the proposals of this kind yet made. The manager states: "Under this scheme capital will be allowed a fair, but not exorbitant, return, and the employed, untrammeled by any exacting regulations (for they will still be at perfect liberty as heretofore to join or belong to any society or trades union, with the full and free consent of the directors), will be paid, as heretofore, wages at least equal generally to those current in similar establishments."

The manager continues: "In the development of the scheme it will become not only the duty, but the interest, of the present managers to train up a disciplined body of workers, from amongst whom may be appointed substitutes to take the place of those who in due course must retire from their present posts in the management. It will be a work of time, but each succeeding year should find the process of evolution more rapid. To a great extent the rate of development will be in the hands of the work people. It will not be amiss to bear in mind that the present managing directors have themselves been workmen, and that it is hardly 20 years since the writer entered the service of the founders of the business as a laborer."

Many other cases might be quoted, both in France, England, and America, where employers in every variety of business have recently adopted this principle under various modifications, but I have thought it better to take certain typical illustrations rather than to seek to make this report a record of all known applications of the system.

IMPORTANCE OF CASH PAYMENT.

A variety of examples seems to show that, if the profit-sharing system is to attract the best energies of large masses of work people, it ought sooner or later to include a payment in cash. In the Godin system a right to share capital has been substituted for cash payments, but there the training of the work people has gone on during a long series of years. The people have grown up to feel a direct interest in the commercial success of the company, and from the point of view of commercial enterprise there is much to be said in favor of capitalizing the share of labor, supposing the laborer is sufficiently farseeing and intelligent to find the same stimulus in an accumulating property that he does in the direct receipt of cash.

When the whole dividend to labor is paid away in cash, and thus during the good years a considerable portion of capital disappears among the workmen, in bad years the capitalist employer has sometimes to go even without his 5 per cent. It is only a partial answer to this to say that the workman has his share of the loss too. On the supposition that he works as resolutely and contentedly during one or two bad years as he did at the end of a series of good years, he loses all fruit of his extra exertion, energy, and intelligence, whilst the loss to capital is *pro tanto* reduced. But the supposition on which this answer is founded is only applicable to workmen of a very high order of intelligence, who are thoroughly trained in the profit-sharing system, have perfect confidence in its working, and are resolved to stand by their employer in carrying it out to the end; and, even so, it is not clear that the capitalist employer is sure to be in as good a position to meet a series of bad years as if he had retained command of all the profits made. Even if the whole share of profits paid to the workman has been actually created by the stimulus given by the profit-sharing system or could not have existed without that system, the profit-sharing employer has not the same amount of resources to carry a largely extended business through a bad time. There is an obvious reasonableness in the systems which provide for a portion, at least, of the profits to the workman remaining in the business in the shape of shares or of money lent the firm in his name.

In most instances, where profit-sharing is in effective operation, it will be found that the reward to labor comes partly in cash and partly in a deferred right to pension or property, and, where holding the property is closely connected with actual work in the business, this is as reasonable a mode of rewarding labor as any other.

EVIDENCE AS TO ECONOMIC RESULTS.

As to the results, beyond the fact that the three great French firms so often named, Leclaire, Godin, Laroche-Joubert, have built up large fortunes, we have the evidence of all these men attributing their success to the operation of this scheme. The fortune of the Bon Marché at Paris was, according to M. Boucicaut, consolidated by the bonus form of profit-sharing, which he so liberally applied for many years.

M. Barbaret asked M. Godin what is the result from an industrial point of view.

M. Godin: "Facts will tell you more than any panegyrics. Ever since this system was established, the workmen are interested in improving the output. They are quick in pointing out sources of loss and defects, and they exert themselves to make new suggestions."

M. Goffinon shows the economy resulting from profit-sharing by these figures: "Formerly the wear and loss of cordage, ladders, and soldering irons were reckoned at 8,000 to 10,000 francs per year; now we need allow but 5,000 francs. There is an equal economy of material used."

M. Laroche-Joubert is equally explicit as to the improvement in the work done and the reduction in cost.

On the advantages resulting from profit-sharing, even in a brief experience at the South Metropolitan Gas Works, Mr. Frank Livesey writes:

"One decided advantage to the company from the working of the profit-sharing scheme has been the desire on the men's part to see that the sick fund is managed better, that is, to see that the company is not imposed upon. Formerly it was of no consequence to the men, who pay 3*d.* per week to this fund, which is not sufficient to pay the 12*s.* per week they receive during sickness, so that the company makes good the deficiency, whatever that may be.

"Another case is that of a foreman managing the coke business, who suggested that if arrangements could be made for quickly loading the costermongers' barrows with coke a much larger trade could be done.

"Another illustration is that of saving wear and tear of iron barrows. These barrows, when loaded with hot coke, have to be turned upside down to empty them, and in so doing the barrows are much knocked about. The plan now used saves the shaking and destruction of the barrow, with less labor for the men. Several men have pointed out cases where work that was being done outside could be done cheaper by the company."

Some 8 years ago Messrs. Brooke, Bond & Co., tea-blenders, of London, established a bonus system for their employés in service more than 6 months, and, writing in December, they express their satisfaction at the result:

"The number participating varies. So does the amount of net profits. Consequently, the ratio between normal wages and the sum allotted to each worker fluctuates considerably. We have distributed a bonus at the rate of 1*s.* 8¼*d.* per £1 of wages and a bonus of 2*s.*

11½*d.* per pound of wages. The smallest amount distributed has been equal to 8½ per cent. on the assistant's earnings, and the largest has been equal to nearly 15 per cent.

"In the event of a worker leaving of his own accord or because his services are not required, and in the absence of any culpable negligence or misconduct, he is paid his share of profits up to the date of leaving, on the basis of the previous half-year's percentage.

"Our staff embraces both time and piece workers and the usual mercantile clerical staff. The numbers participating were—

Year.	June.	December.
1887	61	69
1888	84	87
1889	98	101
1890	110	....

"Our system of profit-sharing was introduced primarily for the benefit of the workers. The problem was how to add to the earnings of labor without diminution of the profits of the employer. The solution was supposed to be found in increased zeal, vigilance, punctuality, economies of time and material, identification of interests. It was hoped and anticipated that the operation of these motives and qualities would add to the profits all that is given back in the shape of bonus. We are completely satisfied with the results.

"As you see, our hands enjoy a substantial bonus. On our part we have the advantages of a better choice of hands, indisposition on our part to change, less necessity for incessant personal supervision, and greater amenity and agreeableness in the relations of masters and servants."

All the French authorities are agreed there is a greater permanence in the staff.

As to the source of profit No. 3, suggested by many observations of M. Leclaire and quoted from Mr. Pirrie, of Dundee—the reduction in cost of superintendence—I found M. Dequenne very doubtful of its reality. He said the superintending staff was much what would be required in an ordinary establishment, but M. Laroche-Joubert put the matter in a new light. He agreed with M. Dequenne that a superintending staff is as much required as ever, but said its effectiveness is enormously increased. There is less friction. A remark from the foreman ceases to be a censure. It is an admonition to the workman in his own interest. Instead of causing a wrangle, it is received with brisk attention and sometimes with satisfaction, as a reminder that the workman has an opportunity of contributing to the general efficiency. If these observations are correct, No. 3 should be rather described as greater effectiveness of superintendence.

PROFIT-SHARING IN AGRICULTURE.

There are many ancient forms of coöperation for a share of profits in farming, in fishing, in market gardening. An interesting account of this latter system, as now at work in Bulgaria, is given in Mr. Blech's report for 1890.

Groups of from 10 to 60 men collect a capital of £300 and start together in the early spring. They hire land near some town, "sometimes as far as Brussels or St. Petersburg." The produce is grown, and some of the party are appointed salesmen. A head gardener receives all incomings, and, after expenses are provided for, "each man receives a pro rata allotment proportional to the share of working capital advanced and returns home." Over 9,500 of these native gardeners migrated northwards for the summer season of 1888.

The Massachusetts fisheries are another well-known example. But these are all, as Mr. Carroll Wright points out, cases in which the laborer stakes his chance of wages on the result of the enterprise. They are agricultural or fishery partnerships, so to speak, rather than instances of profit-sharing in the sense considered in this paper.

The application of profit-sharing to agriculture has taken many forms, with which this report is not concerned. The old Metayer system resembled some of the forms of coöperative workshop. One man gave the land and another brought the labor and intelligence, and the profits were shared; but there the profits came in lieu of salary or wages.

Students of this question will be familiar with the celebrated experiment in agricultural profit-sharing by Mr. Vandeleur, of Ralahine, many years ago; a detailed account will be found in Mr. Taylor's book, pp. 100–108. A recent example shows that the present revival of public interest in profit-sharing schemes has extended to agriculture. Mr. George Holloway, M. P., has adopted on his estate on the Cotswolds a scheme having some points of resemblance to the share system at Guise. The estate is of 1,000 acres. It is tithe free, and the rent is 7*s.* 6*d.* per acre, or £375 per year. The live and dead stock, acts of husbandry, etc., on the estate are fixed by valuation at £5,000, and on this amount the estate is debited with 5 per cent. interest, raising the rent to about 12*s.* 6*d.* per acre, or £625 per year. Mr. Holloway undertakes to pay his agent the present salary and the workmen the current rate of wages. If a profit of 5 per cent. per acre is made, every man earning, for instance, wages amounting to £50 is to be credited with a sum in addition of £12 10*s.*, and on this sum he will receive interest at the rate of 5 per cent.; this sum, accumulating each year, goes to pay off the £5,000 advanced to stock the estate. As soon as this is cleared off, all future profits will go to the work people in cash, to be distributed according to the contribution each of them has made in clearing off the original outlay, Mr. Holloway only receiving his rent of £375. The rules under which this interesting scheme is being carried out will be found in Appendix B.

COÖPERATIVE WORKSHOPS.

The use of language in relation to these questions is so unsettled that it may probably be useful to refer briefly to some commercial and economic schemes in this country and abroad which are often associated in the public mind with profit-sharing as developed in France. There are many interesting cases of workmen combining together to start a business on profit-sharing principles, such as the Hebden Bridge Company, the Eccles Manufacturing Company, the Airedale Worsted Company, and others. Although, whatever the workman capitalist may be in the future, he is not likely for some time to take the place of, or to prove a formidable rival to, the large capitalist properly so called (and the immediate question is, how far profit-sharing may be useful to a community consisting of owners of capital on the one hand and sellers of labor on the other), societies of this description deserve notice here on many grounds. So far as they pay a dividend on labor or credit the workman with such a dividend, they are profit-sharing establishments, and come within the scope of this inquiry; but the stimulus to the nervous energy of the workman does not depend merely on this dividend to labor. In theory each workman is also a shareholder. The shares are generally of a small amount, such as a saving workman might be able to command. In many of the best examples of the theory they can only belong to workers in the shop or factory, and are not transferable except to such workers, and there is a maximun number of shares which no one workman can exceed. The management of the business is in the hands of a committee and officers elected by the shareholder workmen.

The Eccles Manufacturing Society has been in existence now close upon 30 years. The shares are £1 shares, but each member must hold five at least and can not hold more than two hundred. The object of the society is declared to be to carry on in common the trade of spinning, weaving, etc., but the shares may be held by anyone admitted at a meeting of the society, whether a workman or not. The profits of the society are chargeable in the first instance with interest on the A shares at 7½ per cent. and on the B shares at 5 per cent. As regards the net profits remaining, the capital of the A and B shares and the total amount of wages paid during the preceding half year shall be added together, and the balance of profit shall be equally divided on both capital and wages at so much in the pound as such sums will make. The portion, however, accruing to wages in each case will only be paid to workmen being members of the society or willing to become members. At present the number of members is 299.

In England these enterprises have generally consisted of a small number of workmen shareholders, and, however excellent the work may be, the smallness of their capital puts them at a disadvantage in competition with the capitalist employer. In Lancashire especially, where they came into existence contemporaneously with the movement for coöperative distribution, which has had a great success, owing to giving a share of the profit to custom, several of these associations have grown out of their original form, the shares being transferable to anyone, whether a workman or not. Many of them differ, in fact, from an ordinary business divided into shares only by the smallness of the separate shares.

Of late years the great object of these associations has been to cement and develop their connection with the successful distributing bodies, known as coöperative stores. They hope thus to secure constant employment for their workmen and that ready market for their goods which the capitalist employer has to seek at the expense of travelers and advertisements. At all the recent congresses of the coöperative associations much has been said of the duty of the great distributing bodies towards coöperative production. These bodies have, however, hitherto abstained from giving any pledge to give a preference in the selection of goods to the coöperative workshop.

It has been urged, too, that the capital of the successful distributive associations might well be employed in supplementing the limited resources of the coöperative workshop. The whole position of these bodies and their relation to the more successful distributing associations will be found discussed in an interesting address by Professor Marshall to the coöperative congress at Ipswich in 1888:

"The energies of productive coöperation," he said, "should be guided toward those industries that do not require rare talents, towards industries in which punctuality and order and neatness and careful economy in matters of detail and a steady, resolute tread along a well-beaten path are the things chiefly wanted."

The obvious difficulty these bodies labor under in an age when the increase of machinery and the remoteness of markets give such advantages to production on a large scale has in foreign countries suggested various expedients, which, on historical grounds, may be deserving of a brief notice.

France.—In Mr. Egerton's report to the foreign office on coöperation in France he relates some results of the French scheme of 1848, which is sometimes confounded with the more celebrated one for Ateliers Nationaux.

On July 5 the Chamber, "desirous of encouraging the spirit of coöperation without prejudice to the liberty of contracts," voted 3,000,000 francs "for division amongst coöperative associations spontaneously formed either between workmen or masters and workmen."

"ARTICLE 2. The amount of this credit will be advanced as a loan in accordance with the opinion of a council of encouragement formed by the minister and with the conditions laid down by this council. * * * Requests for loans came in from all sides; five hundred such were received the first year. Ten times the amount of the 3,000,000 francs voted would not have satisfied them."

A very large portion of the funds went to employers of labor in want of temporary assistance, and the conditions of coöperation were not always adhered to. There were many disputes as to the fairness of the proportions given to particular trades or localities.

"Roughly speaking," says Mr. Egerton, "about half the money lent by the State was lost. The general cause was want of good faith in the first instance or some radical defect in the original constitution of the association."

Besides the associations started by the Government, many others sprang into existence in 1848, and while many failed others had a successful career. Mr. Egerton gives seven examples of prosperous enterprises of this kind, and adds:

"It has been found by experience that coöperative associations on a large scale are difficult to start. When once by the energy and discipline of a few an association has been put in action, then it may be possible to admit numerous members; but really good men are required at first. Besides, it is difficult to find the means necessary to begin coöperation on a large scale unless in the case of some large contract or Government work.

"The very strict obedience to regulations enacted and enforced and their discipline—greater far than could be obtained by masters—are considered to be in great measure the cause of the success of these coöperative societies."

On this point, the possible advantage which profit-sharing work in one form or another might derive from the command of capital, the evidence of M. Corton before the commission appointed by M. Waldeck Rousseau is worthy of notice: "It is not want of credit to obtain capital to start coöperation, but the qualities necessary to coöperation which are mainly wanting; hence the progress of coöperation is slow. The spirit of distrust and the jealousy of any superiority shown by the average workmen are the main obstacles."

Germany.—From the German report we learn that hitherto the general history of productive associations in Germany seems to have been pretty nearly the following:

"A not very large number of workmen join together to establish a common workshop and sell their products for common account. The original intention of admitting new working members is frustrated by the fact that, whereas an individual capitalist can increase or diminish the number of his hands according to the requirements of the market, every unfavorable conjuncture has the effect, in a coöperative association, of leaving some of the members not fully occupied. When better times come, the admission of new members is looked on with disfavor, because it only renders the position of the others worse if times of depression return. There is, further, the difficulty that the advantages shared by the new members are the result of sacrifices on the part of the old, for which the latter are not indemnified."

Whether this reasoning, reported by Mr. Corbett, be just or not, we have plenty of evidence that it is acted on by those associations which in times of prosperity prefer to have other workmen for wages rather than admit them to the benefits of membership.

As regards Prussia in particular, Mr. Corbett stated that in 1876, of four hundred and thirty-nine cases in which the employés shared in the profits, most were examples of profit-sharing with foremen and overseers.

In connection with Herr Borchert's celebrated attempt at profit-sharing in Berlin, it is worth while to recall the following passage from a German paper, the Arbeiterfreund, in 1882: "The surprising rapidity with which the political constitution of the German Empire was established by means of eminent diplomatic and military achievements on the part of the State makes men believe that the well-being of the people might likewise be secured far more speedily from above, *i. e.*, by the instrumentality of the intellectual and material forces at the disposal of the Government, than has hitherto been deemed possible."

In France, however, we see that these schemes have been developed generally in connection with great political eras. Profit-sharing took root in Paris about 1848. It received a further development in 1870. At both periods it was accompanied by various projects of social amelioration, such as productive coöperation and State organization of labor, but its progress appears to have been due to the inherent merits of the scheme, as adapted, at least, to the wants of the French workman. Most of the other social schemes accompanying these successive stages of profit-sharing have passed away, but the firms which have applied the more modest teaching of M. Leclaire go on and flourish.

Those who are anxious to consider this question on all sides will find a very interesting chapter in Professor Böhmert's work, in which he collects the various opinions of French, German, and Swiss authorities against the theory of profit-sharing.

The main objections of M. Leroy-Beaulieu and of M. Block are that the system of profit-sharing will encourage the aggression of labor on capital; will suggest new and mischievous ideas. One of Herr Böhmert's Swiss critics was apprehensive that in bad times the workmen would come to think their employer was not a good trader; would be too impatient, in fact, of the changes of the markets, and would leave him to himself. Thus the antagonism between employer and employed would be imbittered by imputations of incompetence. Again, many objections are based on the supposition that profit-sharing might be demanded as a legal right, etc., were it once encouraged by practical men. The system which invites the workman to save by offering him the right to purchase small shares in the firm or by guarantying him good interest on deposits is objected to as involving small capital in unwise risks. Commerce is too risky for a wise man to employ small savings in it. But the first question is in most cases, how the workman may be induced to acquire something which he can risk—something saved from improvidence; and in most of the schemes, as they are now applied, the right of the workman to change his investment is fully secured to him.

Herr Weigert is practical when he reminds us that the results of the system must be very different in industries like that of Leclaire, where labor makes 80 per cent. of the cost, and in diamond-cutting, where it is only a fraction per cent. of the whole.

Another objection is that profit-sharing will overstimulate the workmen. They will become so absorbed in the pursuit of an additional percentage that they will exert themselves to excess.

The danger of crippling the master's authority is specially dwelt upon. To all these critics M. Marquot and M. Laroche-Joubert were able to say with some effect: "You speak from theory, I from experience; I have tried it, and you have not."

RISKS FROM PUBLICITY.

Very respectable objections have been founded, from the capitalist point of view, on the publicity which profit-sharing might give to the results of a particular business. It is said, if a firm is known to be able to pay 23 per cent. out of profits as extra pay to wages, as the Leclaire firm did for a number of years, there would be a rush of unemployed capital into this particular line of business, and excess of competition would ruin the trade. If, however, we extend our view beyond the speculator on the stock exchange, it seems very doubtful whether this objection is substantial. In the first place, proprietors of capital in the larger sense have many sources of information. They know pretty well the prospects of a particular business without waiting for a declaration of profits, and, if they have not got the information already, they are not likely to rush hastily into a new commercial enterprise because some firm has declared a high dividend.

Another ground on which this publicity, it is argued, may produce mischief is that the share of profit necessarily due to the rare quality of commercial intelligence will, when shown in figures, seem too large to the manual laborer. Instead of peace there will be discontent and agitation. The argument practically comes to this, that the truth is dangerous, and on this subject the great founders of the theory in France have always urged the importance of bringing the real facts before their people. To educate the workman in a due estimate of the value of the directing intelligence is one of the good results they expect from their system. They have from the commencement asserted the value of brain labor—its right to a proportionate share with manual labor. M. Robert says in his report: "When these sums are allotted to a man really engaged in the business—not a sleeping partner, but applying, as head of the establishment, the fullest powers of authority—there is nothing singular or unjust in giving him openly that large share of the profits which is due to a directing intelligence, to capacity, to serious thought, to commercial enterprise, to that absorbing responsibility which weighs upon a man exposed to the danger of losing, instead of increasing, the commercial capital intrusted to his care."

M. Lemaire has raised a more formidable objection. He sees no difficulty as long as a profit-sharing house is making profits, but if a time of declining profits comes, as it has come to some firms so constituted—Messrs. Billon & Isaac, of Geneva, for example—the revelation that there are no profits to divide may, he suggests, at once affect their credit. The master will, he thinks, rather draw upon the reserve fund than confess the facts. It is, however, a question whether commercial credit in the case of serious commercial enterprises is so closely connected with large profits. Credit generally depends in this country, first, on personal character; secondly, on the reputation, not for a great volume of trade with big profits, but for large resources; and, thirdly, on good habits of business. A commercial house doing a very modest business, which is believed to be working on its own resources and to have such habits of business as enables its chiefs to know exactly where they are, will enjoy more credit at a banker's than many more ambitious enterprises boasting phenomenal profits. M. Charles Robert declares that the want of good bookkeeping is one of the obstacles which retard the spread of profit-sharing. Where character and good bookkeeping coexist, the credit of the house will probably be able to withstand successfully the absence of extra profits.

ADMINISTRATIVE AUTHORITY.

The question of the master's authority, too, is one as regards which attention should be called to the provisions of existing schemes. To invest the workman with the legal rights of partners would be clearly impracticable in any large establishment. All those schemes which have attained any success must be regarded as speculations in extra profit, founded in the first instance on mutual confidence, the capitalist believing that the intelligent workman would thus be induced to give him help which he could not exact by any elaboration of inspection, the workman believing that the employer who had recompensed his laborers in the past with promptness and liberality would give him an ample share in the new profit. Starting on this basis, both parties are able to check the result by personal knowledge and frequent opportunities of observation. Accordingly, in all the successful examples of this system the right of the employer to discontinue the arrangement, even the voluntary character of the proposal made for any particular year, is clearly brought out. Wherever it is to be tried in connection with the larger commercial enterprises which make up the great volume of English trade, the absolute authority of the employer to deal with the workmen, irrespective of his claims in the division of profits, would appear to be indispensable; and in the successful examples we have noticed, as well as in the cases of the latest recruits to this system, we find this principle of the employer's authority uniformly guarded.

Of the Angoulême paper manufactories Mr. Egerton, in 1886, said:

"It must be observed in this Angoulême establishment that the management has the practical command of the undertaking; the graduated divisions of profits are conferred as favors, not as right. Members have no individual right to interfere in the management of the business or to examine the books, except those which give the details of the distribution of profits, and the facts already given show how a system worked on these principles has resulted in profit both to master and men."

In 1840, when M. Leclaire commenced his profit-sharing scheme, he stated: "I am the master of my business." Later on he said: "The entire plan is to distribute among a certain number of my workmen who will be wise enough to deserve this advantage a part of the profits produced by labor. The rules of the house must be observed, and there must be mutual confidence." The whole scheme, in fact, existed on confidence, the absolute power of the master remaining untouched until the later stage, when the ownership of the business practically passed into the hands of a committee of the workmen.

In the same way in the profit-sharing system of M. Chaix, 1879, we have this clause:

"ARTICLE 38. M. Chaix expressly reserves to himself the power of abolishing the present regulations in the event of his not being satisfied with their results."

And article 33 had previously declared that M. Chaix is judge of all claims which may arise in reference to the present regulations.

In the case of one of the most recent followers of these teachers, Messrs. Clarke & Co., we find the following provisions:

"The participants shall possess no right whatever to intermeddle in any respect with the bookkeeping.

* * * * * * *

"ARTICLE 10. It is declared that the directors are sole judges of all claims which may arise with reference to the present regulations.

"ART. 11. If at any time it be decided by the directors to abandon profit-sharing, they reserve the right to do so after reasonable notice and to divide among the employés, as they think fit, any sum standing at credit of the provident fund."

In Messrs. Bushill's scheme it is provided:

"RULE 5. The scheme is to continue in force only until the firm gives notice to the employés putting an end thereto."

Messrs. Goodall & Suddicks provide by rule 11: "The principal shall retain the entire and exclusive management of the concern, as heretofore, including the full right to take apprentices, and set on or discharge all persons employed, and to give and take notice for putting an end to the service or engagement of all such persons according to the usual regulations of the trade, and to reduce or advance the rate of wages."

Given, however, confidence in the good faith of the employer, in his trustworthiness as to the general results of the year's work—and without such confidence on the one part and the other none of these schemes have attained any permanent vitality—it is obvious that he must retain full authority to dismiss this workman or that; otherwise the work people who have entered into the scheme in good faith, applying their best energies to secure a favorable result, would not have the assistance of an efficient administration. Where this system has taken root and flourished, admirable subsidiary institutions have sprung up—committees of conciliation and other methods for abridging the labors of administration and reducing the friction between employer and employé. On this articles 27 and 28 in the Chaix rules may be compared with the Laroche-Joubert rule 44.

ABSENCE OF LEGAL OBLIGATION.

On the side of the workman it is urged, what is the use of a system which is so open to the chances of humor or caprice? Does it not necessarily follow from the power reserved to the employer that this policy is a futile dream not deserving practical consideration, and that it may be a snare for labor? We must recollect that the scheme proceeds on the supposition of a profit to both parties, both the laborer and the capitalist. Capital may fairly claim some additional profit for the conduct and organization of the new scheme, the risk and labor it involves; and, if the theory is right, the laborer has a guaranty in the self-interest of the capitalist that the project will not be lightly abandoned. Men like M. Leclaire and M. Joubert traced a large portion of their fortunes to the operation of this system. In the case of the Whitwood collieries the system was ultimately abandoned, because the employers believed the work people were too much preoccupied with the adjustment of the rate of wages amidst the fluctuations of the coal trade to make due exertions toward creating an extra profit. In the case of the Bord firm the scheme was abandoned, because the limited company who succeeded M. Bord did not share his ideas as to the proportion of the increased profit which should be assigned to labor, and we must remember that in both the Whitwood and the Bord cases the schemes continued in operation for a considerable number of years and produced very large amounts in addition to wages.

It does not therefore seem any conclusive objection to that form of coöperation which engages capitalist and laborer to seek a new source of profit that the enterprise is terminable at the will of either party. If the branch of business is of such a kind that after a patient, careful trial no appreciable extra profit can be made, then the sooner the scheme is brought to an end the better for all parties. If, on the other hand, the business has been wisely selected, experience shows that the policy of profit-sharing will not be lightly given up.

POSSIBLE RISK TO WORKMEN.

Again, whilst all the practical applications of this policy have hitherto explicitly guarded the authority of the employer, maintaining his absolute responsibility in the management, the risk of loss to the workman, where he receives a payment in cash, is exceedingly slight. He will not be deterred from joining in a trade movement to be enforced by strike, unless he believes in the good faith and intelligence of his employers. If he has such employers who offer him a profit-sharing scheme, he gets the opportunity with them which he would not get with other employers not adopting the profit-sharing system, namely, that of using to his own advantage what has been described as the "waste product" of the British workman—"the higher abilities of many of the working classes; the latent, the undeveloped, the choked-up, and wasted faculties for higher work that for lack of opportunity have come to nothing."

THE NUCLEUS, OR NOYAU.

The nucleus, or principle of selection, adopted by M. Leclaire is deserving of some examination, for, popular as his labors have been, this principle has often been objected to in France as illiberal and contrary to ideas of equality.

Assuming that a new fund comes into existence under the profit-sharing system, it is improbable that at the first start the most energetic and capable workman will, without the noyau, gain the full result of the additional nervous expenditure. He is invited to exercise a thoughtfulness in the use of material, a delicate care in the finish of his work, which the most vigilant superintendence can not exact from him as one of the conditions of his employment. These new duties will be discharged in very different ways by different workers. One man puts into his day's work a degree of intelligence and energy which may substantially contribute to the general advance in profit, whilst another of average capacity continues to do his stipulated time without any effort of will to make the outturn better. The latter thus gets an addition to his wages without deserving it, and this addition is paid for out of the increased energy of the good workmen. To guard against such injustice most profit-sharing schemes of this latter kind have started on the basis of limiting participation to a certain number of the actual workers. The test of fitness is sometimes length of service, sometimes approved efficiency. Either the advantage out of the profits is confined to a select body of the workmen or they have a larger share than the others. This selected body are relied on to spread the principle of coöperation among the workers by their example and teaching. Care, of course, must be taken in the constitution of this scheme that the other workers shall be able to find admission into the profit-sharing ranks according as their capacity and willingness to contribute to the new fund are ascertained. The door must be open, as M. Godin says, for the workmen willing to qualify, whilst in the meantime the superior workman is relieved of the idea that part of the fruits of his voluntary toil is going to the indifferent and worthless.

Leclaire started entirely on that principle of selection and worked out from it, so that at the present hour, as we have seen, a man who is only employed by the firm for a single day gets at the end of a prosperous year his addition, however minute, to his wage. The spirit of the original select body has so thoroughly permeated the whole organization that drones have either ceased to be drones or they have been got rid of. The standard of workmanship has become so high that even a man employed for 1 day would be unlikely to be admitted unless he was a workman above the average.

It may be argued that, if the principle of noyau, or nucleus, of workmen is a practical and just one, this latter development of the system is fantastic and inequitable, as far as it goes; that such a chance comer would get his natural reward in higher wages for his half day. It is certainly improbable that he would, if he had not thought of the system of profit-sharing, do anything to deserve the additional remuneration; but giving the money is useful in many ways. As regards the employing firm, it is evidence to demonstration that the right to a share of profit is not qualified or frittered away, but the absolute and fundamental basis of the establishment which every, even the smallest, contributor of labor is entitled to profit by. The manifestation of the principle on which the firm acts, the emphatic assurance to their partners in the scheme of the thoroughness with which they seek to apply it—all this contributes to its surer and more economical working and is worth some expenditure, whilst, the direct tendency of such an enterprise being to reduce the employment of casual labor to a minimum, the amount of such expenditure is necessarily a small, and probably a diminishing, quantity.

PROPORTION OF PROFITS TO BE SHARED.

On one question it is natural that the profit-sharing workman—content to leave the book-keeping and management to the employer—should seek to form some definite opinion for himself, namely, the proportions of the extra profits which should go to labor and to capital respectively. A general rule, adopted in many recent experiments, is to divide the net profits into two parts, one to go as additional profit to capital, the other to be divided among the wage-earners. In France the plan has often been adopted of adding together the sums paid for normal interest on capital and for wages and dividing the net profit equally among the recipients of these sums. Upon this point all that seems to be clear is the urgent importance that the employer and work people should, in the first instance, come to some distinct understanding on the principle to be adopted. No general rule as to this proportion has yet been found. It may differ in every business—nay, in every department of a business—and it is only the persons engaged in a particular business who are in a position to suggest what the proper proportion is. In the great business of M. Laroche-Joubert there are seven different systems of adjusting the proportion of net profits to be paid to labor. Thus in the writing-paper mills the wage-earners only get 10 per cent., whilst in the packing department they get 35 per cent., of the net profits credited to each department. This is a matter about which general schemes would be useless. It is exactly the question which intelligent work people, on the one hand, and an enterprising employer seeking an advantage for himself and his employés would be able to settle better than anyone else. It would not, therefore, seem that, where the proper conditions for such experiments exist, the complexity which we find in such a system as that of the factories at Angoulême would be any insuperable obstacle. On the subject of the amount of testimony, in addition to general character, which profit-sharing firms may call in to disarm suspicion, it is deserving of notice that in many cases the rules of these companies provide for a certificate from a chartered accountant. In the case of Messrs. Bushill the "reserved limit" of profit due to capital is attested as a fixed quantity for 3 years by the personal authority of a chartered accountant (rule 2). A somewhat similar provision has been adopted by Messrs. Clarke, Nicholls & Co. and by Messrs. Robinson, of West Bromwich.

REGULATION OF WAGES.

It has been sometimes said, from the workman point of view, after all profit-sharing, whether the share is paid in cash or in a right to future dividends, may be only taking wages off at one end to add them on at the other. This comment seems more specious than true. The employer says in view of a chance of profit: "I will pay you a certain rate of wages, which you take, because you require wages for your own support; but, if you will do your work with extra care, my chance of profit will be greater, and, if that chance becomes a reality, I will give you a share of the profits." Starting at the commencement of the year, he would not be prepared to burden himself with a liability to higher wages in any case, whether with or without profit, but he is quite willing to make a further contract with labor contingent on the realization of this profit.

Two important considerations remain to be noticed. The organizations of workingmen, which have obtained such great influence in recent years and might be supposed the best representation of their interests, are not advocates of profit-sharing. On the contrary, their attitude, while not affirmatively hostile, is unsympathetic. At the recent Liverpool congress the parliamentary committee, without condemning the system directly, declared "it would be difficult to consolidate organization in any body where a system of deferred pay, either in the form of perquisites or pensions, prevailed." On this it is only necessary here to observe that, although special circumstances in the cases of the Whitwood collieries and the South Metropolitan Gas Company resulted in a competition between profit-sharing systems and the trades unions, there is no essential antagonism between the ordinary work of a union, between many of the objects which the older trades unions have pursued and the policy of profit-sharing. Profit-sharing probably diminishes the danger of strikes. To the union, however, whatever its policy may be, a strike is not a primary end, although it may sometimes be a means to that end. One of the main objects of the union is generally the regulation of current wages, and the just regulation of current wages is one of the conditions precedent to the efficient working of a profit-sharing system. In principle, therefore, there appears to be no reason why a trades union should not find useful work in assisting to regulate the basis on which profit-sharing rests. Mr. Bushill points out that "in several recent schemes it is expressly provided that profit-sharers will be free to become or remain members of any trade or friendly society."

An obvious reflection for anyone who has pursued the history of this movement is that, widely as it has spread within the last 2 or 3 years, there are accounts of a considerable number of firms who have at one time tried profit-sharing and who are not now recorded as practicing it. Mr. Gilman gives a list of some length.

Many of these will be found due to individual accident, such as all commercial enterprises must be subject to. The father believed in the scheme, the son did not; or, again, the son retired from business, and so on. M. Laroche-Joubert tells us that one of his brothers so strongly objected to profit-sharing that he left the business and set up for himself, and, not succeeding, was glad to come back and be admitted to a partnership at Angoulême. The firm bought up his business, and the mill which without profit-sharing was a failure is now a successful profit-sharing member of the Angoulême group of factories. In other cases, as in the instance of the Whitwood collieries, too much was expected from the scheme. It is no magician's wand to bring about a change in character and habits all at once. It is no rival to, or substitute for, the operation of trades unions. Its influence is not sufficient to convert into intelligent, self-respecting workmen hundreds of men whose work is distinctly influenced by the presence of the foreman. The system requires much time and pains to produce substantial results. Godin, Leclaire, and Laroche-Joubert all tell the same story—the patience with which they gradually surmounted the distrust of the men, the length of time they had to wait before the employés applied themselves to contribute to the result.

Divested of the eloquence of advocates, the case for profit-sharing comes to this, that in a very large number of industries, where employer and employed are on terms of mutual respect, an intelligent, painstaking employer will find in this system a contrivance which, although requiring much personal care at first, will ultimately work automatically to continue and extend good relations between him and his workmen, to guard against possible mischiefs in the future, and in the long run to materially increase his own profits and his people's well-being.

The foregoing inquiry has been much aided by the work of Professor Böhmert, of Leipsic, a real treasury of information on the subject, and by the report of the French commission of 1883. Professor Böhmert's treatise has been republished at Paris with many recent additions, translated by M. Trombert. To the essays of Mr. Sedley Taylor, of Mr. David Schloss, of M. Charles Robert, of Paris, and of Mr. Gilman everyone pursuing these studies must feel his obligations. The information on profit-sharing supplied to the board of trade by Mr. Bushill and Mr. Schloss has been most useful, and to those gentlemen I am indebted for the form of the list of British profit-sharing firms printed in Appendix A and for most of the details there given. Several of the larger firms have been communicated with by the board. A number of other firms are mentioned as adopting this principle in the Bulletin de la Participation aux Bénéfices, vol. xii for the present year, pp. 222–228, and Mr. Gilman names some thirty-four in the United States of America.

None of these lists, however, include the largest portion of the firms which in this country practice profit-sharing in the earlier forms, such as unstipulated bonus or liberal contributions to provident funds. Although for the purposes of this inquiry the term profit-sharing has been used in the limited sense stated, there is a more abstract sense of the term pointed out by Mr. Carroll Wright: "The term profit-sharing may be applied to any arrangement whereby labor is rewarded in addition to its wages, or, in lieu of wages, by participation in the profits of the business in which it is employed. Benefits of various kinds, as insurance, schools, libraries, and beautiful surroundings, so far as maintained by employers out of their profits and enjoyed by employés as an addition to what their wages would purchase, would have to be regarded, in a strict analysis, as an indirect form of profit-sharing." And in this sense there are few large employers of labor in this country who might not claim a place in profit-sharing lists.

The number, however, of profit-sharing firms, restricted even by the tests Mr. Schloss would apply, amounts to over fifty in England alone, with over 11,000 employés, and shows a remarkable development of interest in this subject on the part of the commercial community within the last 2 years.

Appendix B contains a collection of rules, or extracts from the rules, of profit-sharing firms.

In Appendix C is given the most recent information on the financial results of three firms who have tried the system on a large scale.

In Appendix D will be found a list of printed authorities.

I can not conclude this report without expressing my special obligations to the following gentlemen, who, in personal conversation, have given me the advantage of discussing many points of practice and of hearing the results of their own experience: M. Edgard Laroche-Joubert, député de la Charente; M. Duquenne, Guise; Mr. Isaac Hoyle, M. P.; M. Redouly; M. Charles Robert, president of the French Society for the Study of Profit-Sharing; M. Piat, Mr. W. P. Hartley; Mr. Hazell, of Messrs. Hazell, Watson, & Viney; Mr. Horn, of Messrs. Clarke, Nicholls & Co.; Mr. G. Livesey, M. Chaix; M. Dru, Bon Marché, Paris; Mr. W. F. Wood, of Messrs. Cassells & Co.; M. Trombert.

I have, etc.,

J. LOWRY WHITTLE.

PATENT OFFICE, *December 31, 1890.*

[Appendix A.]

PROFIT-SHARING FIRMS.

List of British profit-sharing firms.

[The following list is mainly founded on the figures published by Messrs. Bushill and by Mr. Schloss.]

Name of firm.	Address.	Business.	Treatment of the bonus.	Year of commencing.	No. of employés.
Coöperative Builders (limited).	Burton Road, Brixton, London, S. W.	Builders	Paid in shares	1888	114
Scotch Tweed Manufacturing Society.	Selkirk	Tweed manufacturers.	do	1890	80
W. Thomson & Sons (limited).	Woodhouse Mills, Huddersfield.	Woolen manufacturers.	do	1886	150
J. W. Arrowsmith	Quay Place, Bristol.	Printer and publisher.	Paid in cash	1886	53
Bailey, Nokes & Co. (limited).	Birmingham	Bolling mills, etc	do	1800	
Binns & Co.	Market Place, Derby.	Corn factors and seedsmen.	Part in cash, part to provident fund.	1888	12
Blundell, Spence & Co. (limited).	Beverly Road, Hull, and London.	Color and varnish manufacturers.	Paid in cash	1884	330
Brooke, Bond & Co.	17 St. Dunstan's Hill, London, E. C.	Wholesale tea blenders.	do	1882	154
Browett, Lindley & Co.	St. Simon street, Salford.	Engineers	do	1890	80
Burroughs, Wellcome & Co.	Snow Hill Buildings, London, E. C.	Manufacturing chemists.	do	1886	200
Thos. Bushill & Sons	Coventry	Printers, manufacturing stationers, etc.	Part in cash, part to provident fund.	1888	180
Cassell & Co. (limited).	Belle Sauvage Works, London, E. C.	Printers and publishers.	To provident fund	1878	1,100
Central Coöperative Stores (limited).	Holborn, London	Stores		1890	

List of British profit-sharing firms—Continued.

Name of firm.	Address.	Business.	Treatment of the bonus.	Year of commencing.	No. of employes.
Clarke, Nicholls & Coombes (limited).	Hackney Wick, London, N. W.	Confectionery manufacturers.	Part in cash, part to provident fund.	1890	1,000
Colombo Iron Works (limited), formerly J. Walker & Co.	Colombo and Candy, Ceylon; London office, 72 Bishopsgate street, E. C.	Engineers and merchants.	To provident fund...	1888	500
Coöperative Needlewomen's Society.	34 Brook street, Holborn, London, E. C.	Needlework..........	Paid in cash..........	1880	25
Coventry Gas Fittings Co.	Hertford street, Coventry.	Gas-fitters, etc........	Part in cash, part to provident fund.	1889	15
A. de St. Dalmas.......	40 Belgrave Gate, Leicester.	Manufacturing chemist.	Paid in cash..........	1884	18
D'Oyly & Co. (limited), formerly Decorative Coöperative Association.	405 Oxford street, London, W.	House painters, plumbers, etc.	....	1883	....
Drake & Gorman*.....	2 Prince's Mansions, Victoria street, London.	Electrical engineers.	Paid in cash..........	1890	70
East Anglian Fruit Preserving Co.	King's Lynn.........	Jam and confectionery manufacturers.	......do....................	1890	16
Edinburgh Coöperative Printing Co. (limited).	Brisco Place, Edinburgh.	Printers, etc..........	To provident fund...	1886	69
A. Edmeston & Sons..	Cannon street Iron Works, Salford.	Millwrights and engineers.	Paid in cash..........	1890	45
Fletcher & Son.........	Castle Works, Norwich.	Printers and publishers.	....	1869	200
General Service Coöperative Stores (limited).	363 Oxford street, London.	Stores....................	....	1890	....
Goodall & Suddick...	Cookridge street, Leeds.	Stationers and printers.	Paid in cash..........	1876	300
Thomas Hailing........	Oxford Works, Cheltenham.	Printer....................	......do....................	1890	9
Hazell, Watson & Viney (limited).	1 Creed Lane, London, E. C.	Printers, etc...........	Part in cash, part to provident fund.	1886	1,200
Hepburn & Co..	Hele Works, Cullompton, Devon.	Paper-makers........	......do....................	1889	170
Geo. Holloway, M. P....	Farm Hill, Stroud...	Farming Trafalgar estate.	To provident fund...	1890	....
Hubbard's Profit-Sharing Building Business.	23 Finsbury Circus, London, E. C.	Builder..................	Paid in cash..........	1890	75
Chas. Joyner & Co....	Icknield Square, Monument Road, Birmingham.	Chandelier manufacturers.	Part in cash, part to provident fund.	1890	280
Kensington Coöperative Stores (limited).	Hammersmith Road, London, W.	Stores....................	....	1890	300
J. H. Ladyman & Co..	King's Lynn..........	Wholesale grocers...	....	1877	20
Lee & Hunt..............	Arkwright Works, Nottingham.	Tool manufacturers.	Paid in cash..........	1890	60
Robert Martin..........	Tower street, West Hartlepool.	Printer....................	......do....................	1890	6
Newman & Son.........	27 Widegate street, Bishopsgate, London.	Printers and stationers.	......do....................	1890	17
New Welsh Slate Co. (limited).	Festiniog...............	Quarry owners.......	....	1889	260
New Zealand Farmers' Coöperative Association (limited).	Canterbury, New Zealand.	Farmers..................	....	....	....
Robertson Bros.........	West Bromwich and Knottingley.	Tar-distillers	Part in cash, part to provident fund.	1889	209

* Profit-sharing is either indirect or partial in its application.

List of British profit-sharing firms—Continued.

Name of firm.	Address.	Business.	Treatment of the bonus.	Year of commencing.	No. of employés.
W. Rowntree & Sons..	Westborough, Scarborough.	Drapers, etc..........	Part in cash, part to provident fund.	1890	100
South Metropolitan Gas Co.*	709 Old Kent Road, London, S. E.	Gas manufacturers..	......do....................	1889	3,000
Southwark and Deptford Tramways Co.	2 Coleman street, London, E. C.	Tramway company.	Paid in cash..........	1890	110
James Tucker (limited).	Collingdon Road, Bute Docks, Cardiff.	Millers, etc............	....	1890	100
Waterman & Co........	Brigstocke Road, Bristol.	Boot and shoe manufacturers.	Paid in cash..........	1887	....
W. D. & H. O. Wills...	Bedminster, Bristol..	Tobacco manufacturers.	......do....................	1889	1,100
Workwomen's Co-operative Association (limited).	39 Waldon street, Commercial street, London, E.	Shirt and clothing manufacturers.	......do....................	1888	80
H. D. Young & Sons..	60 and 62 High street, Edinburgh.	Leather merchants, etc.	......do....................	1887	14

* Profit-sharing is either indirect or partial in its application.

In addition to the above profit-sharing firms there are many other firms which give to their employés, in addition to their wages, a bonus, the amount of which is not fixed beforehand. This is sometimes called "intermediate profit-sharing." Such are: C. Fidler, Friar street, Reading, seedsman, etc.; W. P. Hartley, Aintree, Liverpool, preserve manufacturer; Christopher Thomas & Bros. (limited), Broad Plain, Bristol, soap manufacturers; Tangyes Bros., engineers, etc.

Profit-sharing firms in France.

The following list is from the Bulletin de la Participation aux Bénéfices, vol. xii, 1890:

Leclaire (Maison), entreprise de peinture, Paris, 1842; Laroche-Joubert et Cie., papeterie coopérative d'Angoulême, 1843; Comptoir de l'Industrie Linière, Paris, 1846; Deberny et Cie., fondeurs de caractères, Paris, 1848; Gaidan, banquier, Nîmes, 1848; Assurances Générales (compagnie d'), Paris, 1850; Cie. d'Assurances "Le Phénix," Paris, 1853; l'Union (cie. d'assurances, incendie et vie), Paris, 1854; la Nationale (cie. d'assurances), Paris, 1855; La France (cie. d'assurances), Paris, 1858; Canal de Suez (compagnie du), Paris, 1865; Brière Léon, imprimeur, Rouen, 1866; Renard, Villet et Bunand, teinturiers, Lyon, 1868; Société Anonyme de Tissus de Laine des Vosges, au Thillot et à Trougemont, 1870; Pernod, distillateur, Pontarlier, 1871; Roland-Gosselin, agent de change, Paris, 1871; Vernes et Cie., banquiers, Paris, 1871; Abadie et Cie., fabricants de papiers, Theil (Orne), 1872; Aubert, imprimeur, Versailles, 1872; Barbas, Tassart et Balas, couverture et plomberie, Paris, 1872; Chaix, imprimeur-éditeur, Paris, 1872; Gaget, Pérignon et Cie., plomberie et cuiverie d'art, Paris, 1872; Godchaux et Cie., imprimeurs-éditeurs, Paris, 1872; Hanappier, négociant en vins, Bordeaux, 1872; l'Aigle (cie. d'assurances), Paris, 1872; Le Soleil (cie. d'assurances), Paris, 1872; Société Anonyme des Matières Colorantes et Produits Chimiques de Saint-Denis, 1872; Mame et Fils, imprimeurs-éditeurs, Tours, 1874; Masson, éditeur, Paris, 1874; Comptoir d'Escompte de Rouen, 1875; Filature d'Oissel (Seine-Inférieure), 1875; l'Urbaine (cie. d'assurances), Paris, 1875; Plassard, Morin, Fillot et Cie., ancienne maison Boucicaut (Magasins du Bon Marché), Paris, 1876; l'Abeille (cie. d'assurances), Paris, 1876; Besselièvre, fabricant d'indiennes, Maromme (Seine-Inférieure), 1877; Dequenne et Cie., familistère de Guise (Aisne), 1877; Sautter, Lemonnier et Cie., électriciens, Paris, 1877; Buttner-Thierry, imprimeur lithographe, Paris, 1879; Blanchisserie et Teinturerie de Thaon (Vosges), 1880; Caillard Frères, constructeurs-mécaniciens, Le Havre, 1880; Domaine de Château-Montrose (Médoc), 1880; Société de Dépôts et Comptes Courants, Paris, 1880; Société

Linière du Finistère, Landerneau, 1880; Caillette, entrepreneur de maçonnerié, Paris, 1881; Lefranc et Cie., fabricants d'encres d'imprimerie (ateliers), Paris, 1881; Piat, fondeur-mécanicien, Paris, 1881; Dognin et Cie., fabricants de tulles et dentelles, Lyon, 1882; Moutier, entrepreneur de serrurerie, Saint-Germain-en-Laye, 1882; Compagnie de Fives-Lille (Nord), 1883; Gilon, entrepreneur de surrererie, Paris, 1883; Société Anonyme des Usines de Mazières (Cher), 1883; Bourdoux et Cie., société industrielle de la Corrèze, Paris, 1884; Gounouilhou, imprimeur, Bordeaux, 1884; Baille-Lemaire, fabricant de jumelles, Paris, 1885; Lecœur, entrepreneur de menuiserie, Paris, 1885; Lombart, fabricant de chocolat, Paris, 1885; Mozet et Delalonde, entrepreneurs de maçonnerie, Paris, 1885; Roux et Cie., machines à vapeur Tangye, Paris, 1885; Saunier, entrepreneur de peinture, Paris, 1885; Monduit, entrepreneur de couverture, Paris, 1886; Maison Catteau, ateliers de broderie, Paris, 1887; Montorier, imprimeur, Paris, 1887; Thuillier Frères, entrepreneurs de couverture et plomberie, Paris, 1887; La Foncière (cie. d'assurances), Paris, 1889; Boivin, fabricant de ganses pour passementeries, Paris, 1890; Broquart, fabricant de miroiterie, Bordeaux, 1890; La Providence (cie. d'assurances), Paris, 1890; Lefranc et Cie. (Maison), fabrique de couleurs, vernis et encres (Maison de Commerce), Paris, 1890; Pommery (Vve.) Fils et Cie., fabrique de vins de Champagne, Reims, 1890; Compagnie Générale Transatlantique, Paris; Ducher, fabricant d'habillements, Paris; Gillet et Fils, teinturiers en soie, Lyon; Peugeot Frères, fabricants de quincaillerie, Valentigney (Doubs); Aiquet et Cie., atelier de constructions mécaniques, Lyon; Rivoire et Carret, fabricantes de pâtes alimentaires, Lyon Boulonneries de Bogny-Braux (Ardennes); Comédie-Française, Paris; Cesenier, distillateur, Paris; Fauquet (Octave), filateur, aux Câbles (Eure).

Profit-sharing firms in the United States of America.

[Extract from Mr. Gilman's book, pp. 386, 387, and 389.]

Name of firm.	Address.	Business.	Treatment of the bonus.	Year of commencing.	No. of employés.
Peace Dale Manufacturing Co.	...	Woolens	Paid in cash	1878	450
Staatz-Zeitung	New York	Newspaper	do	1886	139
The Century Co.	do	Publishers	do	1881	...
Pillsbury Mills	Minneapolis	Flour mills	do	1882	400
Nelson Co.	St. Louis	Brass goods	do	1886	250
Rogers, Peet & Co.	New York	Clothiers	do	1886	275
Ara Cushman Co.	Auburn	Boots and shoes	do	1886	650
Wardwell Needle Co.	Lake Village, N. H.	Needles	do	1886	20
W. E. Fette	Boston	Gas agency	do	1886	...
Hofmann & Billings	Milwaukee	Brass goods	do	1886	...
Hull & Co.	Cleveland	Clothiers	do	1886	50
Springfield Foundry	Springfield	...	do	1887	50
Rice & Griffin	Worcester	Molders	do	1887	75
Norriton Woolen Mills	Norristown	Woolen	do	1887	...
Haines, Jones & Cadbury.	Philadelphia	Brass goods	do	1887	250
St. Louis Shovel Co.	...	...	do	1887	100
Crump Label Co.	Mount Clair, N. J.	...	do	1887	...
Page Belting Co.	Concord	...	do	1887	...
Proctor & Gamble	Ivorydale, Ohio	Soapmakers	do	1887	400
Meyer Bros.	St. Louis	Wholesale druggists	do	1888	...
Rand, McNally & Co.	Chicago	Publishers	Paid in stock	1886	600
A. Dolge	Dolgeville, N. Y.	Pianos	To provident fund	1886	...
J. W. Tufts	Boston	Soda water	do	1887	400

[Appendix B.]

Articles, Statutes, and Rules of Profit-Sharing Firms.

MAISON LAROCHE-JOUBERT ET CIE.

Statute 22.—Participation of profits.

The chief director is authorized to continue to the managers and work people of the different counters, stores, mills, and workrooms—in a word, the whole staff of the company—the profit-sharing of net profits and to distribute amongst them the portion of the said profits as is fixed for their benefit in article 28.

This sharing of profits shall not give the individuals to whom it is granted any right as partners.

The participators shall not be under any liability to anyone in case the company is a loser.

Statute 23.—Rule of coöperation and participation.

A by-rule considered and fixed at a directors' meeting, and which is essentially modifiable, determines the conditions under which the distribution of profits is granted by article 22.

The respective stock-takings of the different mills and trading establishments of the house shall not determine, as in the past, the amount of profits attributed to each, but only the proportion in which should be distributed that portion of the profits of the society which the director in chief is authorized by article 22 to levy in favor of all the coöperatives and participators.

Statute 24.—Distribution of the profits of coöperation.

The distribution amongst the coöperatives and participators of the whole result of the 58 per cent. of the profits of the company, which is allotted to them by article 28 of the statutes, is obligatory.

But the directors, at a meeting of the board, shall always have the right of excluding from this distribution, either personally or categorically, in whole or in part, any of the coöperatives whom they may consider unworthy of it. They shall not be required to state the motives of these exclusions or reductions of the share.

The amounts left free by the application of this article shall benefit either the other coöperators of the same category, should it be a coöperative who has been deprived or personally affected, or all the other classes, should it be to a class that this present rule has been applied.

The exclusions or deductions shall help to augment the portion of those who shall not be touched by this rule, whilst the amounts retained shall never go to the profit of the company to the prejudice of the coöperatives and participators.

Statute 28.—Distribution of general profits.

Should the income exceed the outlay, the difference, which constitutes the net profit, shall be distributed as follows amongst the three elements which contribute to its production:

(1) Twenty-five per cent. to capital, of which 5 per cent. shall be carried to the credit of the ordinary or statutory reserve fund (rule 32); 20 per cent. shall be allotted to the share capital and to that of the coöperative depositors, to be distributed with a full dividend to the shareholders and half that amount of dividend to the depositors.

(2) Seventy-five per cent. to labor and intelligence, of which 6 per cent. goes to M. Edgard Laroche-Joubert, of which 1 per cent. is as president of the council; 5 per cent. to M. Ludovic Laroche; 6 per cent. shall be divided between the three other members of the board of directors, an equal portion to each; 58 per cent. shall be allotted to the coöperators of the different mills and warehouses in the proportion indicated by the stock book of each, as is stated in articles 23 and 24 preceding, and distributed among the said coöperatives under the conditions fixed by the rule of coöperation.

On this 58 per cent. shall also be levied the payment to customers, as long as the board of directors shall think fit to continue to their customers the enjoyment of this favor; otherwise the whole of this 58 per cent. shall be allotted to the coöperatives of production.

The amounts accruing to each of the coöperatives shall only be personally acquired by them under the conditions and delays provided for in the rule of coöperation.

Rules.

(1) The coöperatives and participators are divided into four categories:

(*a*) The coöperatives of commercial labor—sale and delivery.

(*b*) Coöperatives of the mills, where the paper is manufactured.

(*c*) Coöperatives of the works for finishing, for packing paper.

(*d*) Coöperative custom.

(2) Fifty-eight per cent of the general profits is divided among the coöperators as follows:

As long as the board retains a percentage to custom, this shall be first levied from the 58 per cent. of profit, so as to give the customers entitled a dividend equal to the 20 per cent. of gross profits given to capital.

Twenty-five per cent. of the remainder, or a quarter, goes to wages, to be distributed in pursuance of rules 12 to 14.

This first distribution in addition to wages is independent of the share which the wage-earners may obtain in the profits assigned in connection with the different branches.

Thirty-five per cent. goes to the commercial branches and sale and delivery, to be divided according to rules 3 and 4; 40 per cent. goes to mills and works, to be divided according to the results which their different ledgers may show.

The board of directors, being paid out of the general expenses, have no share in the distribution of the 58 per cent. of profits.

(3) *Commercial departments, sale and delivery.*—This class includes all the sale and delivery branches, clerical staff, and bookkeeping, at Angoulême travelers and agents for sale, and also the staff of the depot at Paris.

The special stock books of the depot in Paris shall for the future serve only to indicate the share to be allotted to its staff in the distribution of the profits reserved for the category of commercial service.

(4) Of the portion of 35 per cent. allotted to this category, 10 per cent. is allotted to wages, to be distributed at so much in the pound according to wages earned, in accordance with prescriptions of Nos. 12, 13, 14, and 15 of these rules; 12 per cent. is allotted to the employés of sale and delivery at Angoulême and Paris, the managers excepted, to be distributed amongst them as a dividend on their actual salary without adding the additions for length of service; 15 per cent. is allotted to the employés in the offices at Angoulême and Paris, managers excepted, to be distributed amongst them as dividend on actual salary without adding the additions for length of service, as in rule 15; 23 per cent. is allotted to the management of the depot in Paris, to that of the shops at Angoulême, and to the principals of the offices at Angoulême, to be distributed amongst them by the chief director at a meeting of the board; 40 per cent. is allotted to travelers and salesmen, to be distributed amongst them by the chief director at a meeting of the board.

The running account of each person interested is immediately credited to his share by the "commercial service," so that this account may be settled after each stock-taking.

(5) This rule divides the mills into three groups, each of which is charged with material, current expenses, and 5 per cent. on capital employed, and credited with the value of the outturn according to the prices current in Angoulême.

(6) On the 30th of September every year each of the works makes an exact return of its credits and liabilities. The result of this stock-taking determines the portion which accrues to it of the 40 per cent. to the credit of the coöperatives allotted to the class to which it belongs.

Of the profit thus ascertained, 40 per cent. is allotted to wages, to be distributed at so much in the pound, according to earnings, to each of the manufacturing staff, in accordance with the provisions of rules 12, 13, 14, and 15; 35 per cent. is allotted to management (manufacture, bookkeeping, machinery), to be distributed amongst those entitled to it on the advice of the manager of the manufactory by the chief director at a meeting of the board; 25 per cent.

is allotted to the head workmen, to be distributed amongst them at so much in the pound on their actual wages without adding their additions for length of service, as in rule 13.

The running account of each person interested is immediately credited with his share of the manufacturing fund, so that this account, after each stock-taking, may be closed.

(7) *Finishing works.*—The works of this class are four—envelopes, mourning, cardboard, etc. Each workshop is debited with all that the house expends upon it—ground rent, duties, insurance, wages, raw material, and different products (papers, cardboard, materials, construction, etc.), and also the interest at 5 per cent. per annum of the average capital employed by it for the year's account. It bears the expense of keeping up the normal depreciation of material and fixed capital, the depreciation fixed by the statutes being borne by the house. The discount from which it benefits on paper and cardboard is fixed at the maximum of 5 per cent., and it has no claim for any graduated discounts, such as the factories get from the firm. It bears all losses resulting from abatements on account or return which the firm has to make on goods supplied by the works. It is credited with all that it delivers according to prices and tariffs established by the chief director at a meeting of the board. As much as possible prices are those of sale, with a settled allowance for warehousing.

(9) For the envelopes, mourning paper, and cardboard works and for that of notebooks and cigarette paper, who buy themselves the papers they work, the distribution is made in the same way as in the mills which manufacture the paper. Forty per cent. is allotted to wages, to be distributed amongst the whole staff of the works in accordance with the provisions of rules 12, 13, 14, and 15; 35 per cent. is allotted to the management (manufacture, bookkeeping, machinery), to be distributed amongst those entitled to it by the chief director at a meeting of the board; 25 per cent. is allotted to the head workmen, to be distributed amongst them at so much in the pound on their actual wages without adding their claims for length of service. The running account of each one interested is immediately credited with his share.

[Rules 10 and 11 contain provisions relating to other departments similar to the provisions of rule 9.]

(12) *Coöperation of wages.*—Wages is the basis naturally indicated for the distribution amongst workmen of the share allotted to the element of labor in the profits of the company. The chief director is authorized to admit to participation on this basis of the profits of the house all the staff who are 15 years of age and have been in the service of the house at least 1 year at the moment of the stock-taking in which they participate. For this purpose the wages of each is entered, payment by payment, in his pass book and added up at the end of the commercial year, that is to say, the 30th of September.

(13) The coöperatives, at the distribution of profits allotted to wages, take a larger share, according to the length of time they have been in the service of the house.

Wages of workers having less than 5 years' service and being at least 15 years of age will be counted once in the distribution; wages of workers having 5 years' uninterrupted service and being at least 25 years of age at the moment when the account begins will be counted once and a quarter in the distribution of dividends on wages for the year, or 125 francs for 100 francs; wages of workers having 10 years' service and being at least 30 years of age will be counted once and a half, that is, 150 francs for 100 francs; wages of workers having 15 years' service and being at least 35 years of age will be counted once and three-quarters, that is, 175 francs for 100 francs; wages of workers having 20 years and more of service and being at least 40 years of age will be counted double, that is, 200 francs for 100 francs.

When a worker has reached the age of 50, the proportion of his share in the profits reserved for wages ceases to arise. It follows that the maximum of advantages fixed by this article can only be attained by workers who enter the service of the house before the age of 30.

(14) All the holders of pass books without exception, and no matter in which department or factory they work, provided they are admitted to participation, take a share in proportion to the wages established, as said in article 13 preceding, in the distribution of the 25 per cent. of general profits.

(15) Besides this first dividend of wages, each employé or workman of the house admitted to participation takes share in proportion to his established wages, as it is said in article 13 preceding, in the distribution of special profits of the service to which he is attached according to articles 4, 6, 9, 10, and 11 preceding, which fix the allotments of these special profits.

(36) The sums allotted according to this rule after each stock-taking to each coöperator and participator are, 6 months after stock-taking, absolutely his should he still be in the active service of the society at that date and should he continue until then to give satisfaction by his work and application.

(37) These sums are from that moment the absolute and personal property of the coöperator to whom they have been allotted. He has, if of age, the free disposal of it, subject to the reservation inscribed in the following thirty-eighth, thirty-ninth, and forty-first rules. If under age, these sums are deposited to his credit in the stock of the firm.

(44) A coöperative council has been created to second the chief director and managing board in the application of the present rules. This council is only for consultation; its decisions are not in any case obligatory on the directors. It shall be composed of the directors, the members of the managing board, the members of the council of directors instituted by the statutes of the society, and of nine members elected by the senior coöperatives of every rank and grade, men and women, on the principle of one representative from among the coöperatives of each factory and one from among the employés of the delivery and sale branches at Angoulême and one from the employés of the office at Angoulême. On account of its distance the staff of the depot in Paris shall not be represented in this council, except by its director when he thinks it advisable or feasible to assist at its meetings.

THOMAS BUSHILL & SONS.*

The following are the rules of the provident fund scheme established in 1888 on a profit-sharing basis by Thomas Bushill & Sons, manufacturing stationers, Coventry, for the benefit of their employés:

(1) From and after the 1st of September, 1888, the surplus (if any) of the clear profits of the business beyond such definite sum as is for the time being reserved to the firm for their own benefit (hereinafter referred to as the "reserved limit") shall be divided into two equal parts, one thereof to be distributed (not of legal right, but gratuitously) as a bonus to the employés in the manner defined by these rules, and the other to be retained by the firm.

(2) The present reserved limit has been communicated confidentially to Mr. Charles J. Angus, 43 Finsbury Circus, London, E. C., chartered accountant, and will not be altered for the first 3 years, if the scheme so long subsists; thereafter it may be raised or reduced by the firm, but (unless altered during some month of September) not so as to affect the distribution of profits for the financial year current at the time of the alteration. Notice of any alteration will be given to the employés in such manner as to let them know how far such alteration would have affected the last preceding distribution had it then been in force.

(3) The amount (if any) available for distribution will each year be certified by a chartered accountant and will be communicated to the employés.

(4) The employés entitled to share in the profits for any financial year are such only as at the commencement of such year on the 1st day of September were members of the sick club and have on or before that date delivered to the firm's cashier for the time being a certificate or other satisfactory evidence of age and a request to be entered on the list of profit-sharers.

(5) The scheme is to continue in force only until the firm gives notice to the employés putting an end thereto, but such notice, unless given during the month of September, will not take effect until the end of the financial year current at the time it is given.

(6) The employés' share of profits accruing in each financial year is (subject as after mentioned) to be distributed among them in proportion to their respective salaries or wages at the commencement of such year, taken for 1 week, exclusive of premiums, overtime, or other variable allowances. As to employés who are pieceworkers, such week's wages in the case of

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* Rules given in full.

each such worker is to be arrived at (exclusively as aforesaid) by averaging the wages earned by him during the last month of the preceding financial year. In making any year's distribution it shall be permissible to the firm to carry forward undivided to the credit of the following year's employés' share of profits any sum which, if divided, would have given to them less than one week's wages calculated as aforesaid.

(7)—(*a*) If in any year the employés' share of profits should exceed such sum as would, if divided, give a bonus to them equivalent to 6 weeks' wages (that is, six times the amount of the 1 week mentioned in rule 6), the surplus above such sum shall go to form an employés' reserve fund.

(*b*) This fund will remain in the hands of the firm, bearing interest at the rate of 4 per cent. per annum, and may be applied, at the discretion of the firm, in aid of a subsequent year's distribution.

(*c*) If any such year's surplus should not be so applied within 5 years of its transference to the reserve fund, the same, with interest thereon, shall at the end of such 5 years be allotted to the provident funds of such of the employés as shall then be in the employ of the firm (subject as after mentioned) under the title "bonus from reserve."

(*d*) No employé shall be entitled to benefit by any bonus from reserve who was not a profit-sharer for the year in which the money allotted in reserve bonus was earned.

(*e*) The allotment shall be made in proportion to the respective wages or salaries of the employés sharing in the allotment (computed in accordance with rule 6) for the year in which the money allotted was earned.

(*f*) It shall be permissible to the firm, at their discretion, to a bonus from reserve at an earlier date than provided for in clause (*c*) of this rule.

(*g*) The accounts of this fund (whenever any moneys stand therein) will be audited yearly by a chartered accountant and submitted (confidentially) to the firm's cashier for the time being.

(8) The share of the profits accruing to each employé (hereinafter called "bonus") is to be divided into three equal parts; one of these will be paid over to him within 2 months of the end of the financial year, and the other two parts will be credited to him in the books of the firm as a provident fund for his benefit. There will be delivered to him a pass book, in which the account of his provident fund will be entered, and which must be produced when any payment from it is demanded.

(9) An employé whose service ends by notice given on either side, by illness, or by death will have a right to bonus for the financial year in which his service ends in proportion to the portion of the year elapsed to the end of the month preceding the end of his service. Any employé leaving under circumstances other than before mentioned shall lose such right. Any sum lost to an employé under this rule does not accrue to the firm, but goes wholly to increase the distribution to the other employés.

(10) If any employé ceases to be in the service of the firm upon or by reason of any act or default on his part, causing loss or damage to the firm, or is at the time indebted to the firm, his provident fund shall be applied to making good such loss or damage or to the payment of such debt. If the act be embezzlement or felony, his provident fund shall be wholly and absolutely forfeited to the firm. Whenever this rule is called into operation, the circumstances of the case will be reported to the consulting committee (found under rule 20).

(11) Subject as after mentioned, no employé shall be entitled to withdraw any portion of his provident fund.

(12) Subject to rule 10, if an employé during his life ceases to be in the service of the firm from any cause, he shall remain entitled to his provident fund, but he, or any person claiming from or under him, shall not be entitled to withdraw it until such time as, if he had continued in the service of the firm, he would have been so entitled under rule 13; provided, however, that he may be voted earlier payment if the firm and the consulting committee (formed under rule 20) should be of the opinion that exceptional circumstances existing in his case make such earlier payment advisable.

(13) An employé, on attaining the age of 65 years or completing 25 years of continuous service, may on the following 31st day of December receive his provident fund accruing during that period. In reckoning the 25 years' service to the firm or predecessors of the firm commencing at any time since the 1st of January, 1880, is to be included, but not service while under the age of 21 years. Any such employé, notwithstanding receiving his provident fund, if he continues on in the service of the firm, will, as to future bonuses and otherwise. have the benefit of, and be subject to, these rules.

(14) A female employé leaving the service of the firm for marriage may claim an immediate payment of her provident fund.

(15) If an employé dies, his legal personal representatives will be entitled to immediate payment of his provident fund.

(16) In every case where an employé or any person claims payment such claims shall be in writing and delivered to the firm's cashier for the time being.

(17) If the firm should put an end to the scheme, the provident funds of all the employés will become payable to them on the 31st day of December following.

(18) The provident fund of each employé will, while the same remains in the hands of the firm, be credited with interest at the rate of 4 per cent. per annum; but no interest will be allowed for any fraction of a calendar year. The firm may, if they choose, deposit the provident fund of any employé, or part of such fund, in a savings bank, in which case the amount deposited is to be credited with so much interest only as allowed by the savings bank.

(19) The firm will give security upon property of ample value for all moneys from time to time belonging to the employés' provident funds, or so much thereof as may be remaining in their hands.

(20) The sick club committee are to form a consulting committee under this scheme for the firm to consult with on any question affecting any employé or arising under these rules on which the firm may desire assistance; nevertheless, the ultimate decision of every question is to rest with the firm.

(21) The employés or any of them will have neither the rights nor liabilities of partnership, nor are they or any of them to intermeddle or be concerned in the management of the business or the bookkeeping or accounts of the firm.

(22) Notices of communications to the employés are to be deemed effectually given or made if given or made in writing to the consulting committee (formed under rule 20).

(23) Alterations or modifications of these rules which experience may suggest as desirable may from time to time be made by the firm; but such changes, unless made during some month of September, are not to take effect until the end of the financial year current at the time they are made, nor are any such changes to take effect retrospectively so as to affect the amount of the provident fund, at the time they are made, of any employé. Notice of every such change will be given pursuant to rule 22.

(24) In these rules, unless there be something in the subject or context requiring a different construction, words importing the masculine gender includes also females; "firm" includes the present members of the firm, as also any person or persons succeeding to the business, whether such person or persons shall be the present members or one or more of them, together with any other person or persons, or of any other person or persons only; "business" means the business of the firm, whatever changes may take place in the nature or branches of such business or places where the same is carried on; "sick club" means the Cow Lane Steam Works sick club, and "sick club committee" the committee for the time being of such club; "financial year" means the year from the 1st of September to the 1st of September; "scheme" includes all relations between the firm and employés under these rules; "continuous service," as also any analogous expression, means (notwithstanding temporary absences) the whole period during which the relation of employer and employé virtually subsists and there is no dismissal; "provident fund" includes additions thereto under rule 7 and of interest.

Revised rules dated this 30th day of September, 1889.

NOTE.—Old rules 8 and 16 have been cancelled.

No. 126——7.

SOUTH METROPOLITAN GAS COMPANY.*

Basis and rules governing profit-sharing contracts.

Basis.—For the purpose of this scheme of profit-sharing on the principle of the sliding scale, the initial or standard price of gas shall be taken at 2*s.* 8*d.* per 1,000 feet.

When the price of gas is at or above 2*s.* 8*d.* per 1,000 feet, no bonus shall be given; but for every penny the price shall be reduced below 2*s.* 8*d.* a bonus equal in amount to 1 per cent. on the salary or wages shall be paid to each officer and workman so long as the directors are satisfied it is for the mutual benefit of the company and its employés.

Scale.—If the price of gas is 2*s.* 8*d.* per 1,000 feet, no bonus is given; if 2*s.* 7*d.*, 1 per cent.; if 2*s.* 6*d.*, 2 per cent.; if 2*s.* 5*d.*, 3 per cent.; if 2*s.* 4*d.*, 4 per cent.; if 2*s.* 3*d.*, 5 per cent.; if 2*s.* 2*d.*, 6 per cent.; if 2*s.* 1*d.*, 7 per cent.; if 2*s.*, 8 per cent., and so on.

Rules.—(1) Those employés (and those only) who engage and work under written agreements shall be entitled to the bonus.

(2) The bonus shall be calculated on the ordinary salary of the officers and on the daily wages earned by the workmen in the course of the year, which for this purpose shall end on the 30th of June in each year, no account being taken of overtime; and those workmen who may be on piecework shall have their bonus calculated on the amount they would have earned at their ordinary rate of wages in the regular working hours.

(3) No deduction will be made on account of absence caused by sickness, unless the total amount of such absence exceeds 2 calendar months in the year.

(4) The bonus shall not be earned until the 30th of June in each year or until the agreements for the short terms expire, and no employé or his representatives shall be entitled to any part of the bonus until June 30 or such term as may be set forth in the agreements for short periods, except in case of death or leaving the service of the company.

(5) On the declaration of the bonus on the 30th of June in each year or on the completion of the term specified in the agreement, the bonus shall become the absolute property of the employé, who shall have the right to withdraw the whole or any part of the year's bonus, or whatever amount, including interest (excepting the nest egg), which may stand to his credit in his account with the company, upon giving not less than 7 days' notice, at any time; and for such purpose a special form will be provided; otherwise the bonus will remain with the company and be entered in a pass book with which the employé will be provided, and under no circumstances whatever, except fraud, shall the bonus, with the interest (if any) so credited, be forfeited.

(6) The winter men may leave their bonus with the company at interest for any period not exceeding 12 months.

(7) Interest at the rate of 4 per cent. per annum shall be allowed on all amounts, excluding fractions of a pound, left with the company; the said interest shall be calculated up to June 30 in each year and no interest shall be allowed for any time less than 3 months, should the money be withdrawn at any intermediate period.

(8) The company will, in addition to the bonus that may be placed to the credit of any workman, receive and add to his account such amounts as the workman may be able to pay to the company from his savings, and on all such sums so received the company will pay interest thereon at the rate of 4 per cent. per annum, as per rule 7, subject to the following conditions: The company will receive at any time amounts of not less than 2*s.*; the total amount deposited in any year shall not exceed £30.

(9) The company will, on the application of any of their employés, make arrangements for the transfer and investment of the money deposited by the workmen, or any other money they may desire to invest, into the stock or shares of the company, which will pay to the investors about 5 per cent. interest.

(10) Any workman may at any time nominate in writing any person as his representative, in the event of his death, of his profit-sharing fund, and, on the receipt of the nomination

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* Rules given in full.

by the secretary, such person will thereafter be treated as the legal representative of the said workman, and, on the production of the registrar's certificate of death, he may withdraw the whole of the money standing to the credit of the deceased workman; but, if no nomination has been made or no provision for legal representation otherwise taken, the money will, on the production of the certificate aforesaid, be paid to the next of kin of the deceased workman.

(11) Whenever, under the previous rule, on the decease of the employé the company has paid to the person so nominated the amount standing to such deceased employé's credit, such payment shall be valid and effectual against any demand made upon or against the company by any person whatsoever.

(12) A committee of management shall be elected, to consist of the chairman of the board of directors and 9 members elected by the board and an equal number of members elected by the employés, 3 to represent Old Kent Road, 2 Vauxhall, and 1 for each of the other stations, who shall be chosen by ballot, one-third of the members of the committee to retire by rotation every year, but to be eligible for reëlection. Seven members shall constitute a quorum, and every resolution, to be binding at such meeting, shall have for its support a majority of the members of the committee present at and voting upon the resolution.

(13) The committee shall appoint a secretary, who shall have no power of voting.

(14) In the event of any difference arising as to the construction of these rules, it shall be referred to the committee, whose decision shall be final and conclusive.

(15) There shall be two auditors, one to be elected by the workmen, the other to be appointed by the company, whose duty it will be to compare and initial the workman's pass book with the general account, and for that purpose all pass books must be handed in or sent to the head office between the 30th of June and the 3d of July in each year.

(16) The committee shall meet for the transaction of business when summoned by the secretary, but not less than twice in each year; and on a requisition of 20 employés or 3 of their own number at any time.

(17) The secretary shall receive all notices, summon all meetings of the committee, and obey the orders of committee in all other matters and things whatsoever.

(18) No alteration shall be made in these rules whatever, except by the sanction of the committee and subject to notice of at least 1 calendar month, which notice shall state the nature of the alterations and be posted in conspicuous places at the various stations; but nothing in these rules contained, or which may be contained in any rules hereafter agreed upon, shall give to any employé, whether officer or workman, any right to interfere in the management or control of the company's works or in the working or carrying on of the company's business.

(19) The company shall provide all the books and other incidentals and keep the accounts, together with a record of all transactions, at the company's sole cost and charges.

Nest egg.—The nest egg stands in a different position to the ordinary bonus. It is a gift by the company to those workmen who were in the service before June 30, 1889, and is to be subject to certain special regulations until June 30, 1894, when all distinctions will cease; but in the meantime the following regulations are to apply to the nest egg:

(1) All workmen who were in the company's regular employ on June 30, 1889, who signed agreements before December 31, 1889, shall have placed to their credit a sum of money equal to the amount to which they would have been entitled if the profit-sharing or bonus scheme had been started from June 30, 1886.

This gives each regular workman who has signed an agreement prior to December 31, 1889, 2 per cent. on his wages for the year ended June 30, 1887, 3 per cent. on his wages for the year ended June 30, 1888, 4 per cent. on his wages for the year ended June 30, 1889, which is equal to 9 per cent. on 1 year.

(2) This nest egg has been thus placed to each man's credit and is to be left in the hands of the company for 5 years from July 1, 1889, and will accumulate at compound interest at the rate of 4 per cent. per annum.

After June 30, 1894, the nest egg, with interest, will be subject to the rules applying to the bonus; it may be withdrawn or remain with the company at 4 per cent. interest.

(3) In the event of death, the legal representative of the workmen shall be entitled to draw out the nest egg, with interest accrued thereon, on production of registrar's certificate of death and the authority constituting the person applying the legal representative of the deceased workman.

(4) Any workman who is placed on the superannuation fund may, after June 30, 1890, if he so desires, draw out the nest egg, with interest thereon, or it may remain with the company at 4 per cent. interest.

(5) After June 30, 1890, any workman who leaves the service of the company in a legal manner may draw out the nest egg, together with any interest that may have accrued thereon.

CLARKE, NICKOLLS & COOMBS (LIMITED).*

The following is a scheme for carrying into effect the provisions contained in subsection "K" of the company's memorandum of association, empowering them to enter into arrangements for sharing profits with work people:

The object is to give the work people a direct interest in the prosperity of the company and to facilitate the acquisition by the employés of the company's property.

ARTICLE 1. From and after January 1, 1890, an interest, consisting in a share of the net profits of the year, will be allotted gratuitously to all the employés or work people of both sexes who shall have been designated as participants in these advantages.

ART. 2. In order to be entitled to a share in the profits, it is necessary to have worked in the employment of the company for 12 consecutive months ending December 31 (absence from sickness or other equally satisfactory cause alone excepted) and to be working there still at the time of balancing accounts; when these conditions are not fulfilled, only the ordinary wages will be paid.

ART. 3. The share of profits divisible among the work people shall be ascertained as follows: After paying all salaries, liabilities, or agreements, making allowances for bad debts and the usual provision for depreciation and other reserves, paying interest on debentures, dividend on preference shares, and a dividend at the rate of 6 per cent. on the ordinary capital of the company, any balance of profit remaining will be divided into two parts, of which one-half shall belong to the ordinary shareholders and go to augment their dividend and the other half shall belong to the total wages fund of the work people, clerks, and other employés of the company, excepting such as are paid wholly and [or] in part by commission.

ART. 4. The distribution of the share in profits among the participants qualified under article 2 will be made in the proportion that the sums paid to each respectively in wages or salaries shall bear to the total sum paid in wages and salaries during the year.

ART. 5. Every otherwise qualified participant who shall have voluntarily quitted or have been dismissed from the employment of the company during the year will lose all rights to the participation of that year.

Provident fund.

ART. 6. The unappropriated portion of profits accruing to wages fund under article 3, but which is not divisible among employés by reason of their nonfulfillment of conditions stipulated in article 2, shall be invested preferentially in shares or debentures of the company and set aside yearly to form a provident fund.

ART. 7. The provident fund is established for the benefit of the workmen, workwomen, and employés of the company generally, and will be used at the discretion of the directors:

(*a*) For an allowance, when needed, to any person who may fall sick while in the company's employment.

(*b*) For an allowance to the widow of an employé who may die while in the company's employment.

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* Rules given in full.

(*c*) For an allowance to any employé who, having been 25 years or upwards in the company's employment, may be incapacitated from further labor.

ART. 8. The directors may at their discretion make additions to the provident fund from sources at their disposal.

General provisions.

ART. 9. The accounts of the company will be made up yearly to December 31, and, after being audited by the company's auditor, who shall at all times be a chartered public accountant, they will be submitted for the formal approval of the directors and the annual general meeting of the shareholders, and the division of profits will take place immediately thereafter; but it is to be clearly understood that, having this guaranty of good faith, the participants shall possess no right whatever to intermeddle in any respect with the bookkeeping.

ART. 10. It is declared that the directors are sole judges of all claims which may arise in reference to the present regulations.

ART. 11. If at any time it be decided by the directors to abandon profit-sharing, they reserve the right to do so after reasonable notice, and to divide amongst the employés as they may think fit any sum standing at credit of the provident fund. But it is the object and hope of the directors that under this scheme the employés may, in process of time, become owners of the company's undertaking; and it is intended, with the growth of the provident fund, to associate some of the employés of the company with them in the management of the fund and, except as regards executive functions, in the conduct of the business; but, manifestly, until such an interest has substantially grown, it would not be equitable to do so.

ART. 12. The sums to be paid, the dividends, interests, or allowances to be made in consequence of these regulations, whether to participants or to the members of their families designated in article 7, are hereby declared to be free gifts only, and not to confer any right.

ART. 13. Modifications which experience may render advisable may be made in the present regulations at the direction of the directors.

By order of the board.

JOSHUA HOYLE & SONS (LIMITED).

Memorandum of association.

(3) It is intended, in the first instance, to issue 31,200 shares, and out of this number the said firm are, in pursuance of the said agreement, to take 23,400 shares, leaving 7,800 shares to be subscribed for by the work people employed in the business of the company.

(7) The 23,400 shares taken by the said firm are to be called "retained shares," and the shares taken or held by the work people are to be called "industrial partnership shares."

(10) The members of the present firm of Messrs. Joshua Hoyle & Sons are, as governing directors, to retain the full and supreme control in the management of the company's business and affairs, giving, without taking any salary, such care and attention to the conduct of the business as they may in the interest of the company deem necessary; and the others of the first directors are to give their whole time to the management of their various departments of the business, receiving salaries as they have hitherto done.

Articles of association.

ART. 59. All directors, other than the governing directors, shall be personally engaged in the business of the company, devoting the whole of their time thereto.

ART. 66. The governing directors collectively shall hold not less than 6,000 shares in the company in their own right, and if and while the governing directors collectively or the governing director for the time being shall hold less than 6,000 shares, the peculiar powers of the governing directors or governing director shall be suspended; but on the acquisition of the required qualification their peculiar powers shall revive; but the regulations of the company do not prescribe the proportions in which they shall respectively be interested in the prescribed qualification. And this article is fundamental.

ART. 67. A governing director shall not be removable or subject to retirement in rotation, but shall continue in office, unless and until he resigns or ceases to hold shares in the company. And this article is fundamental.

ART. 68. The provisions of these articles with respect to governing directors apply, when there are two or more governing, to the two or more; and when there is only one governing director, to the one; and the authorities conferred by these presents on the governing directors may accordingly be exercised by one governing director when there is only one; and all expressions in these articles referring to governing directors in the plural extend and apply to a single governing director, when there is only one. And this article is fundamental.

ART. 69. Every resolution in writing under the hands of the governing directors entered in the minutes of the proceedings of the board of directors and sealed with the company's seal shall be as valid and as binding on the company as a resolution of a general meeting or a resolution of the board. And this article is fundamental.

ART. 70. The governing directors may cause any resolution in writing under the hands of the governing directors to be entered in the minutes of the proceedings of the board of directors and cause the company's seal to be affixed thereto, so as to make it the act of the company. And this article is fundamental.

ART. 71. In addition to the other authorities expressly or by implication conferred on the governing directors by these articles, or by the agreement set forth in the schedule to these articles, and hereby adopted, they shall have, to the exclusion of general meetings and the board, full authority to determine the following matters:

(*a*) Who shall be admitted to be members.

(*b*) Who shall be directors.

(*c*) The salaries or remuneration of the directors, other than the governing directors.

(*d*) What resolutions shall be proposed to general meetings, members, and board meetings of directors respectively.

(*e*) What shall be the amounts carried to the reserved fund and how that fund shall be dealt with.

(*f*) What shall be the amounts of dividends and when they shall be declared and paid.

(*g*) What business shall be undertaken or given up by the company.

And this article is fundamental.

ART. 72. Inasmuch as the governing directors are to have the supreme control in the management of the concern, they may, when and as they think fit, exercise any or all of the authorities expressly or by implication conferred by these articles on general meetings and boards respectively; and, to the extent to which they do so, their authority shall supersede the authority of general meetings and boards respectively, save only that it shall not be competent to the governing directors to determine by their own authority any matter which by law is required to be determined by special resolution. And this article is fundamental.

ART. 73. Each of the said Isaac Hoyle and Edward Hoyle and any successor to be appointed under this article may, by writing, under his hand, attested by one witness or by his will or any testamentary instrument, appoint any person to be a governing director in his place and as his successor from the time named for that purpose in the instrument of appointment, and the person so appointed shall be a governing director accordingly in the place of the person by whom he was appointed from the time named or implied in the appointment, if at or within one calendar month from that time he is a member of the company, and shall thenceforth, while holding shares in the company, have all the powers and authorities conferred on governing directors by these articles. And this article is fundamental.

ART. 74. Powers to present governing directors to appoint additional governing directors:

(*a*) Each of the said Isaac Hoyle and Edward Hoyle, or, if this power has not been previously exercised, any one of his successors, may, by attested writing or will, appoint one additional governing director.

ART. 76. In case of any difference of opinion between or amongst the governing directors on any matter within the authority of the governing directors or affecting the affairs of the company, the difference shall be determined by a simple majority of their votes, each governing director having one vote for each share held by him, and anything done by a governing director in accordance with the votes of the governing directors or director holding a majority of them shall be as valid as if done by both or all of the governing directors.

ART. 77. The clause in the said agreement and in the introduction to the articles of association, which precludes the original governing directors from receiving salaries, shall not prevent any other governing director from receiving a salary with the sanction of a general meeting.

Shares.

ART. 107. All the shares in the company shall be numbered in arithmetical progression, beginning with No. 1.

ART. 108. Industrial partnership shares shall be also distinguished on the registers of the company and in the certificate of ownership as industrial partnership shares.

ART. 109. Shares may be purchased by the company as provided by the regulations for the time being in force.

Transfer of shares.

ART. 112. The transfer of a share shall be effected by an instrument in such form as the board from time to time prescribe.

ART. 113. Until the board otherwise prescribe, the instrument of transfer shall be in the following form and under the respective hands and seals of the transferrer and transferee, that is to say:

"I, (A. B.)———, of———, a member of Joshua Hoyle & Sons (limited), in consideration of———paid to me by (C. D.)———, of———, hereby transfer———shares of the capital of the company, Nos.———, and all my right and interest in and to the same to the said (C. D.)———, subject to the conditions on which I now hold the same, and I, the said (C. D.)———, accept the same, subject to those conditions.

"As witness our respective hands and seals the———day of———, A. D. 18—."

ART. 114. The register of transfers shall be closed during the 14 days next before every ordinary meeting.

ART. 115. The governing directors, their executors, administrators, or assigns may dispose of the retained shares to such person or persons as they shall think proper.

ART. 116. A parent or guardian, committee, husband, executor, or administrator of an infant, lunatic, idiot, female, or deceased shareholder, or the trustee of the estate of a bankrupt shall not, as such, be entitled to be registered as a member.

ART. 117. Any such parent, guardian, committee, husband, executor, administrator, or trustee in bankruptcy of a member shall be recognized by the company as owner for the purpose of transfer of any share of the incapacitated or deceased member after producing to the board such evidence of his title as reasonably satisfies them, and an entry of the evidence shall be made in the minutes of their proceedings.

ART. 118. A transfer of a share otherwise than by or to a governing director shall not be made by any person until after he has given or left at the registered office of the company at least 7 days' notice in writing of his desire to make the transfer, and of the number of every share desired to be transferred, and of the name, residence, and description of the proposed transferee. And this article is fundamental.

ART. 119. No industrial partnership share shall be held by any person who is not either a servant or workman in the service of the company or a trustee thereof for the company or a governing director; and, if the holder of an industrial partnership share (not being a governing director or a trustee for the company) shall cease to be employed as a servant or workman by the company or die, the right and title to each share held by him and to an apportioned part of the dividends thereon from that event shall immediately thereupon vest in such person or persons as the governing director or, if there is no governing director, the board shall at any time thereafter appoint to be the transferee or transferees thereof, and, on the registration of the share in the name or names of the transferee or transferees so appointed, the absolute title to the share shall rest in him or them; but the then late member, his executors or administrators shall execute a formal transfer thereof to the said nominee or nominees, and until that is done shall not be entitled to receive the value of the share or any debt or money owing to him from the company on any account. And this article is fundamental.

ART. 120. The governing directors shall have the privilege of purchasing and holding for their own benefit any shares which may be transferable under the last preceding article or which may be voluntarily sold by a member. Any industrial partnership shares not so held by the governing directors, or one or more of them, shall be held by the person or persons to whom they shall be transferred under the last preceding article in trust for the company, and to be disposed of to a person or persons qualified to hold the same, as the governing directors or the board shall direct. And this article is fundamental.

ART. 121. A transfer of a share shall not be made without the approval of the governing directors or, if the governing directors do not express their assent or dissent within 7 days after being requested to do so, the approval of the board.

ART. 123. If the governing directors of the board within the said 14 days give notice of their disapproval of the proposed transfer, then, if the person desiring to make the transfer, by notice in writing delivered to the directors or left at the office, so require, the governing directors shall purchase the share for their own benefit, or, if they decline to do so, they or the board shall either purchase in the name of a trustee for the company or find a person to purchase in his own right the share at the value thereof, or, if the governing directors or the board fail to do so within 14 days after being so required by the proposed transferrer, then it shall be deemed that the proposed transfer is approved.

ART. 124. The governing directors shall have the option of purchasing every share in the company at the value thereof before it is sold or transferred to the company or any other purchaser or person. And this article is fundamental.

ART. 125. The value of any share or shares of the company proposed and to be purchased by the governing directors or by or on behalf of the company shall in each case be ascertained by the governing directors, and the valuation shall be binding on the vendor; provided, that if a member or his representative or assign is dissatisfied with the valuation made by the governing directors, and shall by writing desire the governing directors or the board to refer the valuation to the chairman of the stock exchange in Manchester for revision, the governing directors or the board shall, at the cost of the person requiring the same, refer the same accordingly, and the valuation to be certified in writing by the chairman of the stock exchange of Manchester shall be binding on both parties, and, if this provision for reference fails, the value may, at the cost of the person requiring the same, be at any time ascertained for the space of 1 calendar month by reference to arbitration under the general provision for arbitration in these articles. And this article is fundamental.

ART. 126. On the transfer of any share the certificate of title thereto shall, on request, be delivered up to the secretary.

ART. 158. Any share which the governing directors shall decline to take may be purchased by the company in the name of a trustee from any person willing to sell it and at such price as the board think fit.

ART. 159. Provided that the board shall not, without the sanction of a general meeting, apply for any such purpose any part of the revenue of the company other than revenue carried to the credit of the reserved fund.

ART. 160. Shares so purchased may, at the discretion of the board, be sold or disposed of by them or be held in trust for the company, as they deem most advantageous for the company.

TRAFALGAR ESTATE.*

(1) The quantity of land, arable and pasture, is 1,000 acres. The annual rent is 7*s.* 6*d.* per acre all round. The valuation of the live and dead farming stock, machinery and imple-

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* Rules given in full.

ments, acts of husbandry, working capital, etc., amounts to £4,492, as per account annexed, upon which 5 per cent. per annum will be charged until repaid.

(2) The bailiff in charge will therefore have absolute authority in the management of the farm, subject only to the owner of the estate. He will do all the buying and selling. He will engage and discharge work people just as if he were farming solely on his own account and in everything exercise his judgment and skill for the profitable working of the estate.

(3) The valuation taken on March 25, 1890, shall be the basis of all future valuation. Thus the live and dead stock, acts of husbandry, and other effects at each annual stock-taking shall be taken at the same prices in each class regardless of any fluctuations in the maket values, so that the profit or loss on the year will be determined by the value of the sales during the year and not by any imaginary increase or decrease in the value of anything not yet sold.

(4) The machinery and implements, wagons, carts, horses, etc., shall be kept up to their present value and efficiency.

(5) Everyone working upon the estate will be paid the full wages of the district, and those who have been employed not less than 6 months of the year will share in any profit that has been made during the year in exact proportion to the amount of wages received. This bonus will be carried to each person's credit in the farm accounts and will bear interest at the rate of 5 per cent. per annum, to accumulate annually until withdrawn under any of the following rules.

(6) The amounts credited to the work people's account each year shall be applied to pay off the loan advanced by Mr. George Holloway, whose charge for interest will be reduced each year by exactly the same amount as the work people's interest is increased; and, when the total amount of the loan has been thus repaid, his claim upon the earnings of the estate will be for rent only, and all future profits may be paid to the work people in cash, each person receiving his or her proportion according to the amount of his or her accumulation in the capital employed upon the estate.

(7) At every annual stock-taking each person will receive a certificate (signed by the owner of the estate) declaring the amount which he or she has accumulated in the capital employed upon the estate, and, in the event of the death of any such person, the full amount due upon such certificate shall be paid in cash to the legal representative of such deceased person.

(8) Any person may withdraw from the scheme and receive the amount standing to his or her credit at the last annual stock-taking upon forfeiting one-fourth of the amount to the general fund as compensation to those who remain in the undertaking, and such person will no longer share in any future profit or loss in the scheme.

(9) Every transaction during each year, whether buying or selling, shall be entered in the farm accounts, and the books shall be open to inspection by everyone working upon the estate at each quarter day.

(10) The woods, coverts, and timber are excluded from the scheme, and all sporting rights are reserved by the owner of the estate; but, as hares and rabbits partly feed upon the land outside the coverts, he will pay to the farming fund 3*s.* for each hare and 1*s.* for each rabbit that he or his friends may at any time take away with them. The keeper's wages will be paid half by the owner and half from the farm fund.

(11) The bailiff has power to discharge any person who is not working to his satisfaction, and the owner of the estate will advance the amount due to him upon his certificate, either with or without forfeit referred to in rule 8, as the circumstances of the case may dictate.

(12) The owner of the estate reserves to himself the right to pay out in full to all or any of the persons the amounts standing to their credit in the books of the undertaking and to sever their connection with the scheme at any time that it is not working to his satisfaction.

Five per cent. interest will be charged upon the amount expended upon providing additional water supply.

CHAIX ET CIE.

ARTICLE 1. From and after January 1, 1872, an interest, consisting in a share of the net profits of the year, will be allotted gratuitously to all the employés or work people of both sexes who shall have been designated as participants in these advantages.

This share is fixed for the year 1872 at 10 per cent.

ART. 2. To be admitted as participants, the workmen, workwomen, and employés must have 3 years of consecutive presence in the house, must have made proof of zeal and aptitude in their functions, and must address M. Chaix an application accompanied by a certificate of birth.

In order to form the first participating body, all those are from this day forward admitted who on January 1, 1872, have had at least 3 years of consecutive presence in the house.

ART. 3. Beyond the body of participants, candidates for participation may, according to their services, be called to enjoy a part of the advantages of participation. A decision of the consulting committee will fix each year the nature and extent of these advantages.

ART. 4. The apprentices of the house will be admitted as participants from and after the 1st of January preceding the close of their appenticeship; but their 20 years of presence will only be reckoned from the date of their majority.

ART. 5. The distribution of the share in profits among the participants will be made in proportion to the sums which they shall have received during the year, whether in salaries or in wages, and according to the arrangements fixed in article 6 here following.

In determining the dividend of each individual no account will be taken of gratuities or of other variable allowances.

ART. 6. The sum allotted to each participant will be divided into two equal parts.

One of these will be paid over to him every year after the approval of the balance sheet and at fixed epochs; the other will be placed to his provident and pension account, which is referred to below.

ART. 7. Every participant who shall voluntarily have quitted the house before the end of the year will lose all right to the participation of the current year.

ART. 8. A participant who is dismissed will not, whatever the reason for his dismissal, lose his rights in the participation; his interest in profits will, however, end with the month preceding that in which he quits the house.

ART. 9. In the two cases provided for in articles 7 and 8 the participant can not claim the first part of the sum allotted to him in virtue of article 6 before the time of the general distribution, and he will receive it under the same conditions as the other participants.

The second part will be liquidated in accordance with articles 19 and 23.

ART. 10. In the event of decrease in business or of a temporary withdrawal from the house, due to whatever cause, the participant who wishes to preserve his rights must obtain beforehand from M. Chaix written leave of absence.

ART. 11. Participants who have quitted the house under the conditions contemplated by article 10 must hold themselves in readiness to obey the summons which shall be addressed to them. Should they fail to appear, a notice will be sent to their residence by registered letter, to which they shall be held bound to reply within 48 hours at the latest, engaging to return to the house in the course of 8 days, failing which they shall be reputed to have resigned at the date of their withdrawal from the house.

ART. 12. Participants obliged to quit the house in order to perform their military service and who wish to preserve their rights are to inform M. Chaix of the fact. They are further required to apply to him in the month succeeding the expiration of their term of military duty for readmission to their employment.

Provident and pension fund.

Articles 13 to 26 refer to a provident and pension fund available for persons who have worked continuously for the house 20 years or who have reached the age of 60 years (article 14).

The most notable provisions are:

ART. 17. When a participant, having completed his twentieth year of service or, failing that, his sixtieth year of age, quits the house voluntarily or in consequence of dismissal, his provident and pension account is liquidated on his demand in accordance with article 23.

In this case his account ceases to share in the advantages resulting from lapses, but it continues to accumulate by participation and by the payments made by M. Chaix in virtue of article 16; but the liquidation of this new account can not take place until its owner quits the house.

ART. 19. Every participant who, before having attained his twentieth year of presence or his sixtieth year of age, quits the house, either voluntarily or in consequence of dismissal, may require the liquidation of his provident and pension account; but this liquidation must, on pain of forfeiture, be demanded in writing of M. Chaix within the period of 1 year and 1 day from the date of the participant's departure. This liquidation includes only the sums paid under article 6; it takes place under the conditions provided in article 23, and not until 1 year after the participant has left the house.

The sums paid to his account in accordance with article 16 are distributed among the accounts of the remaining participants in proportion to the sums already standing in them respectively.

ART. 24. The persons appointed to receive, after the death of a participant, the sums placed in his account are:

(1) Wife or husband, where no legal separation has occurred.

(2) Children, legitimate or legitimated by subsequent marriage, adopted children, and grandchildren.

(3) Ascendant relatives.

The committee of consultation may, on the demand of the persons interested, modify the above provision.

Failing the successors above appointed, the sums or securities arising from the liquidation of a deceased participant's account are placed to the credit of the remaining participants in proportion to the sums already standing in their respective accounts.

ART. 26. The account of each participant will be credited with a yearly interest of 4 per cent., produced by the sums standing in it, so long as the house retains the financial management of these sums.

This management may, with the assent of the consulting committee, be eventually intrusted either to an insurance company, a society of credit, or a public department.

Consulting committee of superintendence.

ART. 27. A consulting committee of superintendence is instituted to assist M. Chaix—the nine office-bearers of the mutual aid society, renewed each year, three at a time, in general meeting, the three senior heads of departments and foremen, and the six senior workmen, workwomen, or employés of the house.

ART. 28. This committee is formed of nineteen members, viz, M. Chaix, the office-bearers of the mutual aid society, the three senior heads of departments and foremen, and the six senior employés.

General provisions.

ART. 30. There shall be delivered to every participant a pass book, in which shall be entered all the sums placed to his account.

ART. 32. The sums to be paid, the dividends, interests, or pensions to be supplied in consequence of the present regulations, whether to participants or to the members of their families designated in article 24, are beforehand expressly declared to be free gifts and for alimony, and, as such, incapable of cession or seizure.

ART. 33. It is declared that M. Chaix is sole judge of all claims which may arise in reference to the present regulations. He will, however, hear the opinion of the consulting committee.

ART. 34. The yearly division of profits takes place after the approval of the accounts by the sleeping partners of the house, but the participants do not possess the right of intermeddling in any respect with the bookkeeping.

ART. 35. Employés, workmen, and workwomen coming from an establishment provided with similar institutions, and in which they are already participating members, will, on their demand, be admitted *ipso facto* as candidates for participation. The length of their period of probation for becoming participants will be fixed by the committee within the 3 months following their admission to the house, but is in no case to exceed 1 year.

ART. 36. The present provisions apply to the employés of the book-selling department in so far as concerns the profits realized in that branch.

ART. 37. Modification which experience may render it advisable to make in the present regulations shall produce no retrospective effect.

ART. 38. M. Chaix expressly reserves to himself the power of abolishing the present regulations in the event of his not being satisfied with their results.

Should that step be determined upon, the provident fund would be liquidated on the next following 31st of December, and the sums or securities appertaining to it would be individually distributed as cash after approval by the sleeping partners of the house of the year's balance sheet.

ART. 39. If at M. Chaix's death his successors did not choose to continue profit-sharing, the provident and pension fund would be liquidated as directed in the preceding article.

[Appendix C.]

FINANCIAL RESULTS.

Table showing the dividends by Laroche-Joubert et Cie. from 1879 to 1888, inclusive.

Description.	1879.	1880.	1881.	1882.	Total.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Dividend to employés, heads of departments, etc.	61,463.02	68,078.74	71,053.68	109,368.96	309,964.40
Dividend on salaries and wages	18,857.97	22,351.70	28,626.93	37,448.40	107,285.00
Dividend paid over and above the 5 per cent. interest on the capital possessed by the employés and workmen	10,363.50	12,743.77	14,410.79	16,366.36	53,884.42
Dividend to customers	19,872.99	21,112.80	28,840.92	32,522.72	102,349.43
Total	110,557.48	124,287.01	142,932.32	195,706.44	573,483.25

Description.	1883.	1884.	1885.	1886.	Total.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Dividend to employés, heads of departments, etc.	89,653.53	83,121.14	58,870.34	48,424.04	284,069.05
Dividend on salaries and wages	32,172.65	47,908.28	30,670.78	27,656.12	138,487.83
Dividend paid over and above the 5 per cent. interest on the capital possessed by the employés and workmen	8,986.90	10,239.27	4,100.78	3,911.25	27,238.20
Dividend to customers	18,409.10	21,477.28	6,818.18	6,930.10	53,634.66
Total	149,222.18	166,745.97	100,460.08	86,921.51	503,349.74

Table showing the dividends by Laroche-Joubert et Cie., etc.—Continued.

Description.	1887.	1888.	Total.
	Francs.	*Francs.*	*Francs.*
Dividend to employés, heads of departments, etc.	67,078.96	61,415.26	128,494.22
Dividend on salaries and wages	38,285.19	34,720.24	72,905.43
Dividend paid over and above the 5 per cent. interest on the capital possessed by the employés and workmen	11,638.03	12,659.00	24,397.03
Dividend to customers	8,323.62	9,318.08	17,641.72
Total	125,275.80	118,112.58	430,769.97

Table showing financial condition of Maison Leclaire, Redouly et Cie.

Years.	Business of firm.	Profits shared.			Annual wages.	Number of participators.	Proportion to wages.
		To benefit society.	Paid in cash.	Total.			
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*		*Per cent.*
1842 to 1864				460,000			
1865		25,233	24,855	50,088			
1866		48,470	31,530	80,000			
1867		38,832	26,035	64,867			
1868		73,975	26,025	100,000			
1869	1,555,263	45,000	90,000	135,000	558,028		16.13
1870	1,071,853	30,812	61,625	92,437	406,414	758	14.337
1871	1,533,978	33,750	65,500	101,250	556,495	1,038	12.129
1872	1,952,085	44,125	88,250	132,375	695,429	976	12.31
1873	1,360,203	32,250	64,500	96,750	508,167	633	12.692
1874	1,658,593	39,500	79,000	118,500	600,293	827	13.14
1875	2,000,566	50,000	100,000	150,000	696,569	1,052	14.35
1876	1,984,627	56,250	112,500	168,750	685,575	1,081	16.31
1877	1,715,252	57,000	115,000	172,500	645,484	826	17.81
1878	1,980,919	65,000	130,000	195,000	713,644	1,032	18.216
1879	2,349,956	80,000	160,000	240,000	867,870	1,125	18.435
1880	2,921,368	95,000	190,000	285,000	972,424	949	19.53
1881	3,033,962	107,500	215,000	322,000	1,068,607	1,125	20.11
1882	3,137,004	120,375	240,750	361,125	1,069,979	998	22.50
1883	2,530,154	112,500	225,000	337,500	966,908	838	23.27
1884	2,553,381	115,000	230,000	345,000	967,606	824	23.77
1885	2,017,644	91,250	182,500	273,750	869,050	710	21
1886	2,059,559	91,250	182,500	273,750	869,000	716	21
1887	2,270,373	95,000	190,000	285,000	896,330	780	21.19
1888	2,485,860	110,000	220,000	330,000	980,363	889	22.44
1889	2,722,779	114,000	228,000	342,000	1,085,230	959	21
Total				2,187,000			
Report from 1842 to 1882				3,326,142			
Grand total				5,513,142			

On September 29, 1863, occurred the consolidation of the Société Leclaire, Alfred Defournaux et Cie., with the Société de Secours Mutuels Commanditaire.

On January 6, 1869, the signing of the Charte du Travail Associé occurred under the form of a new act, which has governed the house since that period.

On July 13, 1872, M. Leclaire died, M. Alfred Defournaux became manager, and M. Redouly was elected assistant manager.

On November 30, 1875, following the death of M. Defournaux, M. Redouly succeeded him and M. Marquot was elected assistant manager.

South Metropolitan Gas Company.

The following statement relates to the workmen only who are paid weekly wages, all officers or members of the staff being excluded from these figures:

	£	s.	d.
Nest egg	6,790	13	1
Interest	270	2	9
Bonus to June 30, 1890	5,377	8	7
Total	12,438	4	5
Total withdrawals to December 31, 1890	3,628	0	11
Total	8,810	3	6
Savings to December 31, 1890	2,966	18	2
Total	11,777	1	8
C stock bought by men (£685 at 2.42)	1,657	14	0

[Appendix D.]

PRINTED AUTHORITIES ON PROFIT-SHARING.

Enquête de la Commission Extra-Parlementaire des Associations Ouvrières; Paris, 1883. Die Gewinnbetheilung von Victor Böhmert; Leipzig, 1878; 2 vols. Profit-sharing, by Sedley Taylor; London, Kegan Paul, 1884. Profit-sharing, by Sedley Taylor; transactions Manchester Statistical Society, 1883. Reports of Her Majesty's Representatives Abroad on the System of Coöperation in Foreign Countries; London, 1886; C. 4783. Participations aux Bénéfices, par V. Böhmert, traduit par A. Trombert; Paris, Chaix, 1888. Profit-Sharing by N. P. Gilman; London, Macmillan, 1889. The Labor Association, by E. Vansittart Neale; London, 1887. The Labor Association, by E. Vansittart Neale; London, 1887; reports Nos. 4 and 5. National Coöperative Festival; report, 1889. National Coöperative Festival; report, 1890. Charity Organization Review, January, 1890; profit-sharing, by David F. Schloss. Contemporary Review, April, 1890; Industrial Coöperation, by David F. Schloss. Coöperative Congress, Ipswich; inaugural address by Alfred Marshall, M. A.; 1889. Coöperative Production Conference; Aberdeen, 1887. Profit-Sharing, by Carroll D. Wright, Chief of the Massachusetts Labor Bureau; Boston, 1886. Congrès International de la Participation aux Bénéfices; Comptes-Rendu; Paris, Chaix, 1890. Le Contrat de Participations aux Bénéfices, par Charles Robert; Paris, Chaix, 1889. Familistère de Guise, par F. Bernardot; Guise, 1889. Maison Piat; Havre, 1889. Mutualite Sociale Godin; Paris, Guillaumin, 1880. Consular Report; Bulgaria, 1890; C. 2805–155. Friendly Societies Report for 1889. Revue de Deux Mondes, May 1, 1870; Paul Leroy, Beaulieu. Bulletin de la Participation aux Bénéfices, 1885–'90. Exposition Universelle de 1889; section d'economic sociale; rapport de M. Charles Robert (in proof). Report on the Social Economy Section of the Universal International Exhibition of 1889 at Paris, by Jules Helbronner; Sessional Papers, Dominion of Canada. 1890, No. 20; Ottawa, 1890.

TRADE AND INDUSTRIES OF LOWER CALIFORNIA.

REPORT BY CONSUL VIOSCA, OF LA PAZ.

BACKWARD CONDITION OF THE STATE.

Although the Republic of Mexico has enjoyed of late years an uninterrupted period of peace and prosperity, it is a noticeable fact that this peninsula has not been in the ranks with other parts of the country in its development and advancement during this epoch. Much, no doubt, is due to its topographical situation and to the great want of facilities for periodical communication with other ports. As yet there are no telegraphs or cables existing, and it has happened at times that an entire month has elapsed without receiving news from the balance of the world.

Under such trying circumstances it is difficult for any country to make any progress. It is quite true that its agricultural resources are very limited, but there are other elements, such as mines, pearl fisheries, dyes of various kinds, etc., which offer inducements to enterprising people. The present settlers are, as a rule, little inclined to mining ventures, and, in fact, but few are acquainted with mining, which will undoubtedly later on constitute the wealth of this country.

As it is, in this immense territory of 8,709 square leagues there are but 21,000 inhabitants, of which, perhaps, about 1,000 are foreigners.

MINES AND MINING.

It is gratifying to note, nevertheless, that what few industries exist are in a prosperous state. The following is a statement of the mines now in operation:

The Boleo Company, situated at Santa Rosalia, about 200 miles from this port and about opposite the port of Guaymas, is controlled by parties in France. It has an immense plant of machinery for smelting great quantities of copper ore daily. The group of mines which furnish the ores seems to be very extensive and is connected with the works by railroad. For a long time after the commencement of operations by this company it met with severe reverses and heavy losses, caused by fires and floods principally and partly through mismanagement; but withal the mines proved themselves good, and the concern is now in a prosperous state. The company employs from 1,000 to 1,500 men constantly, and a town of considerable importance has suddenly sprung up in the vicinity.

The shipping at this place has now become very important, and during the last fiscal year it appeared in the Government statistics of customs as the third port in the Republic. This fact is attributed in a great measure to the circumstance that every necessary article for the maintenance of the place, as fuel, beef, produce of all kinds, materials for buildings, as well as all kinds of goods, have to be imported, as the country in that vicinity does not produce anything whatever. The landing place is an open roadstead, and at times it is dangerous to vessels lying at anchor. During September last two foreign ships were driven ashore in a squall and lost.

The Angeles Bay Gold and Silver Mining Company is also in a prosperous condition, and, although now working on a small scale, it is capable of being extended.

The San Antonio mining district, in the southern part of the peninsula, is the location of the Progreso Mining Company, which is, without doubt, the most important in the territory. This company has in operation one of the most complete and perfect plants of machinery, and its silver mines are in splendid condition. The ores are not, as a rule, of very high grades, but this is compensated for by the abundance of the yield. This company is in a flourishing state, and, with the large force of men in its employment, it is a source of maintenance, for the most part, of this district. The San Antonio district is worthy of mention as a great silver-mining country, having a number of mines which might be worked to advantage.

The Mexican Mining Company, a newly formed corporation, is now working and prospecting some of these mines preparatory to introducing machinery. The results met with lately are very encouraging, and it is to be hoped that, after all these facts become better known to the public, immigration and capital will be finally induced to this district.

The shipments of bullion and ores from the above district to the United States during the last year were valued at $606,280 in gold, while the imports of machinery, lumber, and provisions from the same source amounted to $133,108.41.

A NEW DYE.

A new industry in the line of dyes is now becoming of considerable importance. Lower California has long been noted for the variety of dyes which it produces, such as orchilla weed, etc., but the torote tree bark, recently discovered, has come into great demand, and several large shiploads have been exported to Europe. As yet there seems to be but little demand for the article in the United States, although it is cheaper than orchilla and other dyes, producing in its natural state a dark red color, which is quite indelible. It is now collected and sold in this market at the price of $1 to $1.50 per 100 pounds, and the supply seems to be enormous.

SUGAR PLANTATIONS.

The sugar plantations existing in the agricultural towns of Santiago, Miraflores, Todos Santos, San José, and others have for years been considered as unprofitable to the owners on account of the unimportance of the local demand. The lands cultivated for this purpose are extremely productive, and the planters are now buoyant with hopes, owing to the fact that under the new American tariff they will readily find a reliable market in the United States for their sugar. Since the issue of said tariff, these lands have risen in price, and more fields are being prepared for the cultivation of sugar cane.

The lands so cultivated are irrigated from springs or running waters, and they are naturally few; but there are tracts of considerable size which could be made to produce other varieties of produce equally well if irrigated artificially, as it has already been proved, but as yet that kind of industry is not in existence.

THE FISHERIES.

The fisheries on this coast form another important resource. Fish of various species, seals, turtle, and pearl shell are to be found. So far the pearl shell, which is noted for producing the finest of pearls, is the only branch in this line which is sought after. It has never been systematically fished, and it is to be regretted that under the present mode, without regulations to govern the fishing of the same, the greater part of the small shell is destroyed to such an extent that the parties engaged in this business have been obliged to retire for 2 years in order to allow the shell time to reproduce itself.

A company at Magdalena Bay is now trying the experiment of canning the extract of turtle for shipment to England. If successful, this industry could be greatly extended, as the entire coast abounds with them.

Seal fishing or hunting is carried on in a limited manner at the head of the Gulf of California. The oil is principally consumed at the mines, and its price in this market is about 50 cents per gallon.

IMPORTS.

A statistical report of the imports from foreign countries in a district so little populated naturally shows very insignificant figures; but it can be stated that the bulk of the imports is from American markets and about one-fourth from European countries.

JAS. VIOSCA,
Consul.

UNITED STATES CONSULATE,
La Paz, January 18, 1891.

STEAMSHIP LINES FROM THE AMAZON.

REPORT BY CONSUL KERBEY, OF PARA.

The Amazon valley, generally known as North Brazil, comprises an area almost as extensive as that part of the United States east of the Rocky Mountains. It is probably the richest valley in natural and agricultural resources on the globe, extending on a line with the equator almost 2,000 miles due westward to the base of the Andes, in Peru and Bolivia.

Practically nothing is produced in this valley, because the gathering of the rubber is so much more profitable than anything else. Everything necessary to sustain civilized life is imported, principally from Europe. Two-thirds of the rubber exported goes to the United States; four-fifths of the imports are from Europe.

All parts of this valley may be reached by water communication. It is no exaggeration to state that the extent of the inland navigation amounts to 50,000 miles. Ocean steamers may ascend the Amazon for 2,000 miles to the very frontiers of Peru and Bolivia. There are no obstacles to free navigation. No American steamers ascend the Amazon above Para.

The enormous trade of this valley is being developed by English companies principally. The Amazon Company, which is a British local enterprise, confines its business to the river transportation. The Red Cross and Booth Steamship Companies (English) extend their commerce from Manaos, 1,000 miles up the Amazon, direct to Europe and the United States.

These English companies are well managed in the interests of shippers to and from North Brazil, Europe, and the United States. The two companies have been engaged in their exclusive trade with North Brazil for a number of years. They do not receive any subsidies from the English Government nor from the General Government of Brazil at Rio de Janeiro. The two companies have contracts with the State government of Amazonas, of which Manaos is the capital, entitling them to certain sums per year.

The Booth line, which extends from Manaos direct to New York via Para, is entitled to a subsidy of $24,000. For this they are obliged to perform nine round-trip voyages a year between New York and Manaos until 1892; after that twelve voyages, or one per month, between Manaos and New York. They are also obliged to carry the mails, 3 tons of State cargo, and 3 first-class and 6 third-class governmental passengers free on each voyage. In addition to this they are required to carry all State cargo exceeding the above 3 tons at 20 per cent. reduction on the tariff rates. They are also obliged to maintain a fixed tariff of freight and passenger rates approved by the Government.

The steamers on contract voyages enjoy packet privileges, but pay all the taxes and port dues demanded in Brazil.

Substantially the same conditions are required in the contract with the Red Cross line, which extends from Manaos direct to Europe. The State governments pay no cash, but in settlement of any balances they tender what are known as "titulars," that are receivable for State dues.

It will be seen, therefore, that these "subventions," as the Englishmen call their subsidies, are not such as to enrich them; in fact, they sustain their lines principally by the good, hard cash freight rates paid by American shippers of rubber.

The freight rate on rubber from Para to New York is 25 cents and 5 per cent. primage per cubic foot delivered in New York. This is about equivalent to four-fifths of a cent per pound.

Unlike coffee and sugar from the lower provinces, crude rubber is a safe freight, that is, it is not liable to any sea damage in transportation, and the rates charged are out of all proportion to the values and risk. A rough box containing rubber measures 11¾ cubic feet in smaller sizes or 24 cubic feet for larger size. These can be safely and securely stowed and make what is known as good, solid cargo, as they pack well.

There is sufficient business now from the Amazon to require all of the ten steamers each of the Booth and Red Cross lines in addition to the four American steamers which call at Para at irregular intervals en route from the south to New York.

What Para and the Amazon require is more frequent and regular ocean communication with our country, and there seems to be sufficient business to sustain this demand.

JOSEPH O. KERBEY,
Consul.

UNITED STATES CONSULATE,
Para, January 31, 1891.

COMMERCE AND INDUSTRIES OF VERA CRUZ.

REPORT BY CONSUL HOFF.

INDUSTRIES.

There has been started here three soap factories during the past year, and they are all doing a thriving business. Now that the right to move from one State or county to another has been granted without paying duties, manufactories should increase, as such duties used to be a great hindrance to manufactures of any kind.

TRADE.

The exports from here to the United States for the year 1890 are nearly the same as for the previous year, the gain being only $5,628.80, but at the same time there is a great deal more tonnage to this port.

SHIPPING.

The tonnage, flag, and class of vessels entering and leaving this port of Vera Cruz is hereto annexed and tabulated. The whole number of tons entering and clearing from this port was 473,704, of which the United States had 113,809; Great Britain, 109,051; Spain, 132,000; France, 68,000; and Germany, 40,009. There were of American steamers 67, and sailing vessels 23; Great Britain had 77 steamers, and France and Germany had 50. Of all these steamers and sailing vessels, 198 out of 295 went from here to the United States, making two-thirds of all their commerce. Whilst last year there went from here 182,427 tons to the United States, this year there went 315,802 tons.

RAILROADS.

The Interoceanic Railway, 3-foot gauge, will start from the port of Vera Cruz, on the Gulf of Mexico, and will run to Acapulco, on the Pacific, with a branch to the Tierra Caliente, at a point called Amacuzac. The total distance between Vera Cruz and Acapulco will be 872 kilometres (542 miles). At present the railway is completed and opened from Mexico to Jalapa and is in course of construction between Vera Cruz and Jalapa; this will be finished within 3 months. On the Pacific side of the country the line is completed and opened from Mexico to the town of Jojutla, a distance of 200 kilometres (24 miles), and from Puebla to the town of Chutla, a distance of 106 kilometres (66 miles); from this point to Acapulco the work is not yet commenced, but will be started shortly. The unconstructed portion to Acapulco is about 380 kilometres (236 miles).

HARBOR.

The harbor works progress as well as can be expected. They have placed in the structure 228,240 tons of stone (made of cement and sand), and have 39,000 tons more ready to continue the work as soon as they get the derrick completed that is now being built in order to place the large 30-ton stones on the top of the present structure, which is near the top of the water the whole length of the line. They have got a great quantity of natural stone from off the reefs and from the mountains to fill in on the back, or north, side of the mole as a sort of breakwater to keep the sea from the mole in heavy storms or northers. The mole, when completed, will be 97½ feet wide, 4,973 feet long, and part of it 50 feet below tide level; and the north sea wall will be 20 feet above the tide level, and is expected to be finished in 1893, and will then be the only good harbor on the Gulf of Mexico.

Table showing the navigation of the port of Vera Cruz, Mexico, for the year ended December 31, 1890.

Flag.	From—	Entered.					
		Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
United States	United States	67	109,728	23	4,081	90	113,809
British	Europe and United States	77	109,051			77	109,051
French	do	29	67,321	2	734	31	68,055
German	do	21	38,552	5	1,457	26	40,009
Spanish	do	45	132,000			45	132,906
Norwegian and Swedish	do	7	4,678	19	6,102	26	10,780
Total		246	461,330	49	12,374	295	473,704

Flag.	To—	Cleared.					
		Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
United States	United States	67	109,738	23	4,081	90	113,809
British	Europe and United States	77	109,051			77	109,051
French	do	29	67,321	2	734	31	68,055
German	do	21	38,552	5	1,457	26	40,009
Spanish	do	45	132,000			45	132,000
Norwegian and Swedish	do	7	4,678	19	6,102	26	10,780
Total		246	461,330	49	12,374	295	473,704

Table showing the declared value of exports from the central district of Vera Cruz to the United States during the year ended December 31, 1890, in United States gold.

Articles.	Value.	Articles.	Value.
Asphaltum	$1,985.40	Marble	$100,786.26
Broom root	66,868.22	Merchandise	31,322.97
Beans	25,285.50	Rubber	11,195.90
Cigars	17,977.22	Silver ore	83,565.17
Coffee	3,394,670.49	Tobacco	124,616.41
Chicle	43,759.15	Vanilla	46,831.79
Deerskins	2,976.96	Total	4,333,027.97
Fustic	29,540.05	Total for preceding year	4,227,399.17
Goatskins	236,208.85	Increase	5,628.80
Hides	110,425.99		
Jalap	5,011.58		

JOSEPH D. HOFF,
Consul.

UNITED STATES CONSULATE,
Vera Cruz, January 21, 1891.

SWISS EXPORTS TO THE UNITED STATES.

REPORT BY VICE-CONSUL-GENERAL HINNEN, OF BERNE.

I have the honor to submit herewith a tabular statement of the exports from Switzerland to the United States during the year ended December 31, 1890, as shown by the reports received from the several consulates, with the increase or decrease for each consulate as compared with the year 1889, indicated:

Consulates.	1889.	1890.	Increase or decrease.
Basle	$3,534,533	$4,510,757	+ $976,224
Berne	930,627	1,041,468	+ 110,841
Geneva	901,430	1,036,467	+ 135,037
Horgen	1,512,105	1,448,843	— 63,262
St. Gall	6,525,497	7,851,492	+1,325,995
Zurich	1,430,047	1,850,475	+ 420,428
Total	14,834,239	17,739,502	+2,905,263

Inquiries made at the different consulates in Switzerland as to the effects of the new tariff laws on exportation have elicited the following answers:

BASLE.

The present tariff laws have not affected unfavorably the course of exportation from this consular district. The chief articles of export, silk ribbons and watches, pay no higher duties than under the law of 1883. In fact, no important article shipped from Basle has to suffer from the new bill. The only important change the severe requirements of the administrative bill have made resulted that exporters who formerly made large consignments avoid, so far as possible, this kind of business and sell their merchandise directly to the importer. This is decidedly a change for the better so far as it goes.

BERNE.

The exports from this district, of which cheese is the most important article, show a slight decrease since October last, partly due to the higher duty (from 4 to 6 cents per pound) paid thereon, and partly to the very high market price of the goods; but prospects are existing that the export will improve again in a few months.

GENEVA.

Exports from this consular district have about doubled since the passage of the McKinley bill.

HORGEN.

As the duty on silks is unchanged, it is only the customs administrative act of June 10 which seriously affects the shippers here. Subsequently to that date large quantities of goods were hurried forward to escape the new regulations, so that it was only during the last 6 weeks or 2 months that the effect of the McKinley bill has become apparent. Several large firms have entirely abandoned the American trade; others have greatly reduced their shipments. This decrease, however, is partly due to other causes in action for several years past.

ST. GALL.

The new bill has been in operation so short a time that it is impossible to say that it has as yet had a further effect than to make everyone here anxious to ship and get their goods entered previous to October 6th last, thus bringing about a natural decrease in the next succeeding months.

ZURICH.

Since the passage of the new tariff laws, which, however, made no change in silks, shipments from here have been going on livelier than ever. It is certainly clear that, so far as this consular district is concerned, no hindrance has been caused by the new tariff. There were at first some cases of friction caused by the absence of detailed instructions regarding the manner of applying certain requirements of the administrative bill, but everything is working smoothly now, and I can not see that any honest man has sustained any damage by the workings of the new régime.

JOHN E. HINNEN,
Vice-Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berne, January 13, 1891.

GLASS INDUSTRY OF GERMANY.

TRANSLATED AND TRANSMITTED BY CONSUL-GENERAL EDWARDS, OF BERLIN.

[From the Berlin Börsen Zeitung of January 16, 1891.]

From industrial circles we receive the following information: In view of the German-Austrian tariff negotiations now in progress, it is well to throw light on the glass industry of both countries. If we first look at the Austrian, and especially the Bohemian, glass industry, we find that at the beginning of 1880 it suffered a decline in the extent of its selling district. Until then, for Bohemian articles England was the chief taker, the United States buying the largest amounts in cheap wares. On account of disquiet in the colonies and the languishing general condition of trade, business fell off so that the north Bohemian factories were much cramped. This severe blow was partially the fault of the manufacturers themselves by their manner of doing business. So soon as a buyer allowed himself to be seen, he was completely overflowed with offers. Under such circumstances one can not blame the buyer for choosing the lowest prices. For example, instead of moderately expensive colored glass, the manufacturer took colorless glass, colored it with aniline colors, and painted thereon "in the cold" the flowers of the most beautiful sorts. These wares came to America and were placed in store windows. Very quickly the sun took the color out of the exposed side, while the other side retained a part of its original beauty. Under such circumstances the confidence of the transatlantic buyers was lost. They held back in making purchases and tried first to free their stocks from the doubtful articles. Formerly the Bohemian industry had a good reputation, but it was unable to recover from this injury. The McKinley bill was also injurious, as the United States, as chief buyer, has revolted from the cheap Bohemian articles and now prefers the better German, French, and English wares. Furthermore, Bohemia has now a hard battle to fight out with its workingmen. The formerly very badly paid workmen have formed a union, and this (the entire industry is housework) is now dictating conditions to the manufacturers, which will further cramp the industry. By the German customs tariff of 1885 Bohemia received a blow, to parry which everything imaginable has been tried. For 5 years petition after petition has been made, and the north Bohemian manufacturers have used every effort to have the customs restrictions between the two Empires removed. Recently, also, at the negotiations in Vienna the glass industry has demanded customs modifications for Bohemian wares. With us the glass manufacturers have not yet been heard. A modification of the duties on glass would seriously injure the German industry. Our industry is still in a state of development, and already has shown itself capable of producing articles which were formerly imported from Bohemia. But, nevertheless, large quantities are still imported into Germany which can be very well manufactured by us and in exactly the same quality. This applies specially to mass articles, as in finer articles Bohemia has lost its lead. For the moment Germany is not in position to cover, *e. g.*, its demand for wineglasses. The importation from France and Belgium is very important, notwithstanding that these wares have very doubtful value. Belgian and French crystal glass, when struck, gives a very good sound, and this helps their sale materially. In use, however, there is a great objection—the glasses break very easily, owing to the cooling method used in their manufacture. In general our glass industry has now good business prospects, but it can not afford to lose the benefit of protective duty.

ARTESIAN WELLS IN NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

Not very long ago a new industry was introduced into Nicaragua—the boring of artesian wells. Although those wells are much needed in this Republic and, in fact, in many other of the Central American states, the enterprise met with little or no support, as the citizens here are very backward to invest money in a new industry. On that account a leading merchant of Leon, long a resident in Central America, who had secured the exclusive privilege for boring these wells, found it difficult to interest anyone in the matter. Before putting the plan in thorough working order, many obstacles had to be surmounted, but finally they were successful.

The company has bored four or five wells, finding water in all of them; none of them, however, are flowing wells. In some of these wells they have placed powerful pumps to raise the water from 700 to 800 feet to the surface.

These wells furnish good drinking water to the small towns of Jinetepe and Diriamba, where the people before the establishment of these wells had only brackish, stagnant water collected in pools during the rainy season for drinking. The water is sold at the rate of one-fourth of a cent per gallon.

The strata through which these wells were bored consisted chiefly of hardened lava and volcanic sand, the latter rather a difficult matter to deal with; also, very hard rock, layers of sand with pebbles, and strata of bluish clay were met with.

Two of these wells, I am informed, give a gross income of $19,000 per year, from which sum $7,000 has to be deducted for working expenses, leaving net profits, excluding accidents, of $12,000. This is a very nice dividend on an estimated capital of $72,000, at which sum the company's plant has been valued.

The usefulness of bored wells to this Republic can not be calculated. Every year thousands of head of cattle die for want of water. Many of the cattle estates rely upon the rainy season to fill the creeks and the low places with water for their supply, but during the last 8 or 10 years rains have not been so copious as in former times, and therefore this scarcity of water and natural consequences.

Agriculturists in general, and coffee-planters especially, suffer much for water. Only very few coffee-planters have water sufficient to wash their coffee, and washed coffee brings always from 3 to 4 cents more in the market than unwashed.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, January 9, 1891.

OPENING OF THE VERRUGAS BRIDGE.

REPORT BY CONSUL DAUGHERTY, OF CALLAO.

I have the honor to report that on Sunday, the 4th instant, the famous Verrugas bridge, on the Oroya Railroad, about 80 miles from Lima, was publicly opened to traffic in the presence of three hundred invited guests from Lima and Callao and other parts of Peru. The report of the proceedings did not appear in the official paper until this morning, and, as steamers now leave on Tuesday at 10 a. m., instead of 5 p. m. as formerly, I am unable to send you a translation. I will forward, however, by next mail.

It is confidently believed that the reopening of traffic on this road will greatly improve trade at this port. There are large accumulations of ore between the bridge and the terminus, and I am reliably informed that the transportation of ores alone will employ the rolling stock for many months.

A still more important feature of the reopening of traffic is the fact that the accumulated material for the extension of the road, which has been lying at Callao for so long a time, will now be hurried forward and the extension be pushed with renewed vigor.

A. J. DAUGHERTY,
Consul.

UNITED STATES CONSULATE,
Callao, January 6, 1891.

OUR COMMERCIAL POSSIBILITIES WITH SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

Every day I become more and more convinced that the United States and Spain can each be benefited by closer commercial relations, and I believe that everyone acquainted with the resources and conditions of the two countries entertains the same opinion.

In investigating the opportunities for trade with Spain, importers and exporters should bear in mind that this country is the fatherland of all the Spanish Americas, and that the business preparations necessary to strengthen commercial relations with these countries of the New World can be just as effectively applied here. Language, customs, and, in some instances, distance are the same.

It is not my intention to comment on the résumé inclosed, but I desire to repeat what I have said in other reports, viz, that the United States should send to Spain larger amounts of breadstuffs and meats. Under proper commercial regulations this can be easily done, and that is not all, for I am sure that American inventive genius can find in Spain a market free from serious competition for its products. The wheat imported into Spain during 1889 amounted to 145,312,334 kilogrammes, valued at 26,156,220 pesetas.* In 1890 it reached 161,387,780 kilogrammes, valued at 29,049,853 pesetas. The exports for the same periods were 162,354 kilogrammes, valued at 29,223 pesetas.

The imports of wheat flour for 1889 were 30,653,789 kilogrammes, valued at 9,196,139 pesetas, and for 1890 the amount was 25,485,659 kilogrammes, valued at 7,645,698 pesetas. The exports for the same periods were 23,896,168 kilogrammes, valued at 7,486,773 pesetas, and 31,643,416 kilogrammes, valued at 10,125,893 pesetas.

It will be seen by the foregoing figures that in the 2 years cited Spain bought wheat and wheat flour to the value of 72,047,910 pesetas and sold to the value of 17,767,784 pesetas, thus leaving a net balance against the nation on these two articles amounting to 54,280,162 pesetas.

In the United States I have seen thousands of bushels of grain (corn) wasting in fields and being burned for fuel, and in Spain I have seen small boys in great danger of being killed or crippled as they darted in and out among carts and horses picking kernels of wheat, corn, and peas that scattered one by one from the sacks with which the carts were loaded.

It would seem that the people of two countries where such opposite values are placed on commodities, that in the one life is risked to obtain what in the other is wasted or burned, might be mutually benefited by closer commercial relations.

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*1 peseta = 19.3 cents.

Table showing the quantity and value of imports into Spain during the years 1889 and 1890, according to tariff classification.

[1 peseta = 19.3 cents.]

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 1.—Stones, lime, minerals, glassware, and earthenware.				
Marble and jasper:			*Pesetas.*	*Pesetas.*
Rough, cut in pieces......kilogrammes...	2,338,471	3,281,276	210,461	295,315
All other forms......do......	4,727,027	4,030,831	661,783	564,316
Other stones and earths......do......	60,408,041	82,916,104	2,718,362	3,731,225
Coal (mineral)......tons...	1,335,809	1,440,174	33,395,222	36,004,350
Coke......do......	279,144	276,814	6,978,591	6,920,350
Tar, pitch, asphalt, etc......kilogrammes...	24,951,794	20,991,621	2,495,179	2,999,160
Petroleum:				
Raw......do......	33,243,184	50,691,461	7,978,363	12,165,951
Refined......do......	3,027,484	2,567,102	787,146	667,446
Other mineral oils:				
Raw......do......	1,108,680	1,771,211	266,083	425,091
Refined......do......	219,015	337,732	56,943	87,810
Vaseline, etc......do......	809,145	2,591,721	194,194	632,013
Benzine and gasoline......do......	161,213	230,356	41,915	59,893
Minerals......tons...	13,171	4,565	263,411	91,300
Glassware (common)......kilogrammes...	4,028,802	4,229,779	1,208,640	1,268,934
Crystals and their imitations......do......	1,147,138	1,133,312	2,950,134	1,926,630
Window glass......do......	2,429,411	2,109,746	1,943,528	1,687,797
Mirrors......do......	69,320	53,585	221,824	172,472
Bricks, tiles, etc......do......	22,308,437	33,611,766	1,561,591	2,352,824
Tiles of stone and of fine clays......do......	8[illegible],300	859,278	1,216,985	1,245,953
Porcelain......do......	464,680	419,967	1,161,700	1,049,917
Total......	......	......	65,312,055	74,348,749
Class 2.—Metals and their manufactures.				
Iron:				
Cast (ingots) and old......kilogrammes...	27,936,448	34,324,365	1,955,551	2,402,706
Tubes of all classes......do......	7,235,029	9,428,849	1,085,254	1,414,327
Manufactured—				
Common......do......	4,212,626	5,547,225	1,011,030	1,331,334
Fine......do......	1,237,075	1,224,618	816,468	808,248
Wrought and steel rails......do......	27,279,020	38,272,754	4,091,853	5,740,913
Sheets—				
Above 6 millimetres in thickness......do......	3,376,747	3,789,689	675,349	752,938
Up to 6 millimetres thick, and bars......do......	19,194,346	19,709,733	4,606,643	4,730,337
In large pieces......do......	1,965,132	7,497,875	589,539	2,249,362
Wire......do......	4,172,374	5,026,153	1,460,331	1,759,154
Nails and screws......do......	4,770,657	4,481,867	2,719,274	2,554,664
Tubes......do......	3,100,359	3,958,747	991,801	1,227,212
Wrought and steel manufactures......do......	7,725,235	8,222,692	6,180,188	6,578,154
Tin:				
Sheets......do......	4,538,459	2,952,700	2,359,909	1,535,404
Ingots......do......	494,220	582,435	1,235,551	2,456,087
Copper of first melting and old......do......	94,113	145,463	141,170	218,194
Copper and brass:				
Bars and ingots......do......	260,569	446,274	334,166	914,861
Sheets, nails, etc......do......	601,173	1,546,624	1,382,608	3,550,335
Tubes and large pieces......do......	247,378	276,905	655,551	633,798
Copper, bronze, and brass manufactures......do......	408,589	381,852	1,634,356	1,543,408
Total......	......	......	34,126,772	42,406,436

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 3.—Drugs and chemical products.			*Pesetas.*	*Pesetas.*
Palm, cocoa, and other solid oils............kilogrammes...	10,834,228	11,534,851	6,825,564	7,266,956
All other vegetable oils....................................do......	730,594	1,935,834	438,357	1,101,500
Roots for dyeing and tanning barks....................do......	1,404,730	2,120,417	280,946	424,083
Oleaginous seeds...do......	5,174,681	6,969,865	1,500,658	2,021,261
Other vegetable products...................................do......	3,029,721	1,801,199	3,787,151	2,251,499
Indigo and cochineal...do......	257,988	222,153	3,044,258	2,621,405
Extracts for dyeing...do......	2,249,855	2,438,957	2,204,857	2,386,162
Varnishes..do......	367,212	392,774	734,424	785,548
Leads :				
Powdered or in *terron*.....................................do......	1,804,448	2,146,544	355,335	1,609,908
Prepared and tinted...do......	491,739	458,529	737,808	687,794
Imitations..do......	283,943	177,930	2,555,487	1,601,370
Acids :				
Muriatic...do......	1,128,404	1,571,881	135,408	188,626
Nitric...do......	60,376	89,938	31,395	46,768
Sulphuric..do......	371,170	235,462	51,963	32,965
Sulphur..do......	7,478,702	12,058,755	972,232	1,567,638
Alkaloids and their salts....................................do......	883	1,010	132,450	151,500
Alum..do......	1,048,086	1,013,477	167,694	162,156
Carbonates, alkaline...do......	21,451,210	22,093,974	4,290,241	4,418,795
Chloride of lime..do......	3,481,458	4,036,228	905,180	1,049,419
Potassium, soda, etc...do......	1,951,263	1,534,952	195,126	153,495
Salt (common)...do......	675,581	652,467	13,511	13,049
Glue and albumen..do......	752,748	739,917	752,748	739,817
Phosphorus...do......	48,176	58,776	289,056	352,656
Nitrate of potash...do......	1,169,194	1,307,487	643,057	719,118
Nitrate of soda..do......	12,080,775	14,055,878	3,324,233	4,216,763
Pharmaceutical products.....................................do......	252,029	222,289	1,260,145	1,101,445
Unclassified chemical products...........................do......	4,131,100	3,569,542	4,131,100	3,569,542
Starch..do......	2,049,122	2,275,827	1,083,915	1,206,186
Compounded and chemical foods.........................do......	8,434,609	10,617,536	2,530,383	3,185,261
Paraffine, stearine, etc., in bulk.........................do......	1,632,026	1,761,385	2,203,235	2,377,870
Manufactured..do......	370,649	252,659	611,571	416,887
Perfumery and essences.....................................do......	151,892	135,117	1,215,136	1,080,936
Total..	....	....	48,702,424	49,518,48
Class 4.—Cotton and its manufactures.				
Raw cotton.......................................kilogrammes...	63,690,882	49,837,623	89,167,234	69,772,672
Thread :				
Up to 35..do......	208,372	143,922	458,417	316,628
Above 36...do......	94,146	59,266	329,511	207,431
Twist, of three or more threads..........................do......	266,675	285,581	1,866,775	1,999,067
Textures :				
Up to 25 threads...do......	986,260	997,390	5,113,970	5,175,002
Above 26 threads..do......	34,026	37,840	276,552	310,358
Stamped—				
Up to 25 threads...do......	554,627	498,443	4,166,608	4,755,402
Above 26 threads..do......	4,576	1,299	39,330	11,188
Diaphanous-like muslin......................................do......	87,715	91,799	813,275	857,640
Piques..do......	51,947	46,372	423,084	380,164
Velvets and double textures................................do......	71,998	66,035	654,689	600,696
Tulles...do......	27,744	21,873	364,020	185,528
Narrow lace, except crocheted...........................do......	21,165	14,564	509,088	350,124
Knit goods, crocheted..do......	49,057	32,510	445,155	295,682
Hosiery, etc...do......	61,750	67,799	437,366	479,700
Socks and underwear...do......	84,523	76,727	677,408	626,014
Total..	....	....	105,742,438	86,323,296

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 5.—Other vegetable fibers and their manufactures.			*Pesetas.*	*Pesetas.*
Hemp (raw)....kilogrammes...	3,292,202	5,217,702	4,604,216	4,539,400
Flax (raw)....do.....	115,406	70,287	113,098	68,881
Jute and manilla grass (raw)....do.....	9,699,524	10,975,757	4,558,776	5,158,606
Hemp or flax yarns....do.....	3,824,044	3,557,767	14,722,569	13,697,403
Jute and manilla grass yarns....do.....	4,287,633	5,575,374	3,215,728	4,181,531
Thread textures:				
Plain (10 threads)....do.....	20,710	21,810	83,882	90,627
From 11 to 24 threads....do.....	171,796	163,043	2,193,921	2,117,523
From 25 threads upwards....do.....	11,805	9,765	275,545	187,362
Crossed and labored....do.....	86,703	91,289	894,569	940,538
Laces....do.....	1,137	1,179	290,625	295,375
Knit textures....do.....	683	295	17,075	7,387
Jute and Spanish grass textures....do.....	261,642	279,689	532,011	563,937
Crossed and labored....do.....	178,058	218,287	903,195	1,123,519
Total....	....	....	32,405,210	32,972,289
Class 6.—Wool, hairs, and their manufactures.				
Bristles and hairs (raw)....kilogrammes...	239,693	199,044	862,893	716,558
Wool:				
Unwashed....do.....	130,814	340,600	313,953	817,440
Washed....do.....	1,255,467	1,416,472	6,026,242	6,799,066
Combed or carded....do.....	480,629	391,651	2,595,396	2,114,915
Yarn:				
Dirty....do.....	5,109	344	34,486	2,322
Clean....do.....	76,941	51,697	750,174	504,046
Dyed....do.....	51,957	31,808	584,516	357,840
Carpets....do.....	422,331	451,997	1,648,182	1,762,788
Felts....do.....	196,580	204,960	720,531	749,019
Blankets....do.....	9,449	5,446	76,992	43,928
Knit textures....do.....	321,805	233,537	5,413,228	4,062,380
Woolen cloth:				
Pure....do.....	353,831	280,940	6,827,924	5,439,024
Mixed with cotton....do.....	140,854	103,358	1,584,200	1,166,663
Other textures:				
Pure wool....do.....	625,635	458,543	10,569,399	7,811,896
Mixed with cotton....do.....	536,845	503,834	5,437,120	5,151,388
Total....	....	....	43,445,236	37,499,273
Class 7.—Silk and its manufactures.				
Silk:				
Raw....kilogrammes...	113,818	113,625	4,632,720	4,545,000
Twisted....do.....	3,068	2,423	184,080	145,380
Floss silk:				
Combed....do.....	1,202	1,118	24,040	22,360
Thread, untwisted....do.....	13,080	16,585	340,080	431,210
Twisted....do.....	26,141	28,578	1,071,781	1,171,698
Silk textures, pure....do.....	60,730	35,414	6,311,990	4,787,430
Plushes, etc., of pure silk....do.....	2,656	1,666	402,159	258,281
Textures of raw and silk floss....do.....	16,168	11,249	863,109	599,724
Tulles, laces, and crocheted silk....do.....	14,972	10,391	2,045,284	1,432,080
Knit silk....do.....	3,720	3,001	269,532	217,098
Velvet and plushes mixed with cotton....do.....	28,488	23,060	1,569,672	1,269,425
Other textures of silk:				
Mixed with cotton....do.....	138,789	99,794	4,367,490	2,640,340
Mixed with wool....do.....	21,722	12,168	663,772	378,495
Total....do.....	....	....	22,745,709	17,898,521

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 8.—Paper and its manufactures.			*Pesetas.*	*Pesetas.*
Printing paper.....kilogrammes...	3,078,411	1,525,817	2,000,967	991,781
Lithographing and engraving.....do......	853,369	743,191	1,152,048	1,003,308
Ruled paper (handmade).....do......	298,268	284,448	596,536	568,896
Books:				
Printed in Spanish.....do......	122,854	110,139	411,561	368,966
Printed in foreign languages.....do......	164,740	164,404	494,220	493,212
Maps, engraving, and designs.....do......	85,062	65,895	2,126,550	1,647,375
Paper stamped with gold, etc.....do......	33,218	53,785	166,090	268,925
Other classes.....do......	249,137	302,896	498,274	605,792
Brown.....do......	1,529,534	1,733,956	963,606	1,092,392
Unclassified.....do......	225,085	241,595	675,255	724,785
Total.....	.....	.....	9,085,107	7,765,432
Class 9.—Lumber and its manufactures.				
Staves.....M...	15,853	14,899	15,060,350	14,154,379
Lumber:				
Deals, plank, and heavy.....metres...	566,300	579,770	30,013,900	30,727,810
Fine.....kilogrammes...	2,340,065	3,137,848	772,221	1,035,490
Board.....do......	179,925	150,759	100,758	84,425
Casks, finished or unfinished.....do......	1,289,235	1,229,[illegible]	541,478	516,528
Manufactured—				
Common.....do......	2,368,421	2,215,432	4,736,842	4,430,864
Fine.....do......	783,137	798,147	1,762,058	1,795,830
Gilded objects.....do......	161,029	162,318	901,762	908,981
Spanish grass, sea grass, etc.....do......	11,429,623	6,074,260	2,057,332	971,882
Paste for manufacturing paper.....do......	.....	6,495,396	.....	1,039,263
Total.....	.....	.....	55,946,701	55,665,452
Class 10.—Animals and their products.				
Geldings.....number...	230	227	207,000	204,300
Other horses.....do......	3,388	1,977	2,286,900	1,334,475
Mules.....do......	10,396	8,243	4,158,400	3,297,200
Asses.....do......	718	480	43,080	28,800
Cattle.....do......	11,219	17,283	2,243,800	3,456,600
Swine.....do......	35,173	8,083	3,517,300	808,300
Sheep and goats.....do......	54,342	66,450	652,104	797,400
Hides.....kilogrammes...	8,322,227	7,807,563	13,731,675	12,882,479
Patent leather.....do......	121,741	88,303	2,191,338	1,589,504
Other leather (tanned).....do......	191,690	187,553	1,916,900	1,8[illegible]5,530
Belts for machinery.....do......	53,925	67,996	485,325	611,964
Animal grease.....do......	10,224,554	14,145,755	7,668,415	10,609,316
Fertilizers.....do......	36,582,210	46,890,925	9,145,553	11,722,731
Total.....	.....	.....	48,247,790	49,218,599
Class 11.—Machinery, carriages, and vessels.				
Machinery:				
Agricultural.....kilogrammes...	756,242	908,997	630,618	818,097
Motory.....do......	6,709,917	9,306,687	8,051,900	11,168,024
Copper.....do......	220,507	213,747	[illegible]	822,026
Other material.....do......	18,925,855	21,764,159	24,035,836	27,640,482
Carriages:				
4-seated berlinas or coaches.....number...	12	18	48,000	72,000
2-seated berlinas.....do......	32	20	89,600	56,000
2 or 4 wheels (other styles).....do......	74	64	92,500	80,000
Railway carriages.....kilogrammes...	99,438	1,013 431	107,393	1,094,505
Other kinds of railway carriages.....do......	1,608,896	5,826,072	804,448	2,913,036

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 11.—Machinery, carriages, and vessels—Cont'd.			*Pesetas.*	*Pesetas.*
Carts......kilogrammes...	1,952,773	1,741,690	781,109	696,676
Vessels:				
Wooden—				
Up to 50 tons......number...	31	24	117,465	29,129
Do......tons...	453,183	112,381		
From 51 to 300 tons......number...	[illegible]	2	295,654	41,764
Do......tons...	1,140,640	161,125		
Over 300 tons......number...	2	[illegible]	290,830	925,894
Do......tons...	1,122,030	3,572,123		
Iron and steel......number...	28	23	9,347,373	5,745,064
Do......tons...	28,761,150	17,677,121		
Total......	......	......	45,626,328	52,103,597
Class 12.—Grain and food.				
Fowls and small game......kilogrammes...	2,509,948	1,834,772	5,019,896	3,669,544
Salt and smoked meat......do......	200,817	296,202	116,473	171,797
Pork and lard......do......	6,383,829	9,356,051	7,341,402	10,759,459
Other kinds of meat......do......	30,777	23,347	29,237	22,180
Butter......do......	222,400	277,670	822,880	1,027,379
Fish:				
Cod......do......	43,548,185	47,395,053	27,435,356	29,858,883
Fresh......do......	3,100,226	4,189,865	682,048	921,770
Smoked......do......	171,286	81,910	94,206	45,050
Rice (clean)......do......	5,945,348	2,496,161	1,664,697	698,926
Wheat:				
From the United States......do......	1,093,437	1,049,557	196,818	188,920
From France......do......	4,141,629	16,398,014	745,494	2,951,643
From Russia......do......	87,306,313	107,511,117	15,715,136	19,352,001
From Turkey......do......	35,175,808	21,572,269	6,331,645	3,883,008
From other countries...... do......	17,595,147	14,856,823	3,167,127	2,674,281
Total......do......	145,312,334	161,387,780	26,156,220	29,049,853
Wheat flour:				
From Germany......do......	262,935	74,244	78,881	22,273
From Austria......do......	317,139	117,020	95,142	35,106
From Belgium......do......	1,073,421	317,612	322,026	95,284
From France......do......	28,349,290	24,253,321	8,504,790	7,275,996
From other countries......do......	651,004	723,462	195,300	217,039
Total......do......	30,653,798	25,485,659	9,196,139	7,645,698
All other cereals:				
From France......do......	3,574,245	15,400,394	428,910	1,848,047
From Morocco......do......	9,849,181	12,024,454	1,181,901	1,442,934
From Roumania......do......	5,028,924	7,039,883	603,471	844,786
From Russia......do......	4,865,260	24,810,634	583,831	2,977,276
From Turkey......do......	5,442,161	3,081,293	653,059	369,755
From other countries......do......	25,985,038	64,351,549	3,118,205	7,722,136
Total......do......	54,744,809	126,708,207	6,569,377	15,204,984
Flour of above cereals......do......	103,325	96,834	23,764	22,272
Dried vegetables......do......	34,670,477	39,324,827	8,320,914	9,437,958
Sugar:				
From Cuba......do......	35,436,602	51,968,260	23,033,792	33,779,369
From Porto Rico......do......	12,606,290	20,132,219	8,194,088	13,085,942
From Philippine Islands......do......	5,840,790	3,273,319	3,796,514	2,127,657

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 12.—Grain and food—Continued.				
Sugar—Continued.			*Pesetas.*	*Pesetas.*
From France..................kilogrammes...	129,799	75,778	90,859	53,045
From other countries..................do......	575,666	776,091	402,966	543,264
Total..................do......	54,589,147	76,225,667	35,518,219	49,58[illegible],277
Caracas cocoa:				
From Venezuela..................do......	1,211,138	1,325,016	2,543,390	2,782,534
From other countries..................do......	13,803	186,784	28,986	392,246
Total..................do......	1,224,941	1,511,800	2,572,376	3,174,780
Guayaquil cocoa:				
From Cuba..................do......	1,070,407	1,519,899	1,980,253	3,011,804
From Porto Rico..................do......	75,126	97,448	138,983	180,279
From Philippine Islands..................do......	7,972	792	14,748	1,465
From Ecuador..................do......	3,603,688	2,524,577	7,207,376	5,633,370
From other countries..................do......	469,707	1,573,176	939,414	3,146,352
Total..................do......	5,226,900	5,715,892	10,280,774	11,973,270
Coffee:				
From Cuba..................do......	162,239	100,122	332,590	205,250
From Porto Rico..................do......	2,543,828	3,496,452	5,214,847	7,167,726
From Philippine Islands..................do......	1,939,627	1,781,771	3,976,235	3,652,631
From Arabia..................do......	45,554	....	95,663	....
From Mexico..................do......	30,076	2,287	63,160	4,793
From other countries..................do......	64,155	145,048	134,724	304,601
Total..................do......	4,785,479	5,525,680	9,817,219	11,335,001
Cinnamon..................do......	261,339	208,910	1,097,624	877,422
Other kinds..................do......	88,344	125,213	97,178	137,734
Pepper..................do......	515,793	473,377	928,427	852,079
Tea..................do......	88,112	91,124	198,252	205,029
Spirits:				
From Cuba..................hectolitres...	25,362	45,299	887,668	1,585,465
From Porto Rico..................do......	60	1,318	2,107	46,130
From Philippine Islands..................do......	3	....	103	....
From Germany..................do......	231,925	360,010	9,277,017	14,400,400
From France..................do......	4,465	7,536	178,580	301,440
From Sweden..................do......	84,168	174,564	3,366,708	6,982,560
From other countries..................do......	19,284	13,357	771,360	534,280
Total..................do......	365,267	602,084	14,483,547	23,850,275
Champagne..................do......	2,066	2,125	1,047,980	1,[illegible],500
Other kinds..................do......	21,800	14,953	3,269,947	2,242,950
Preserved foods..................kilogrammes...	171,247	149,605	856,235	748,025
Sweets..................do......	254,388	252,704	763,164	758,112
Soup paste, etc..................do......	3,162,221	2,791,724	1,581,111	1,395,862
Cheese..................do......	1,202,368	1,331,175	2,404,736	2,[illegible],250
Total grain and food..................	....	....	178,358,[illegible]	210,400,419
Class 13.—Sundries.				
Ornaments..................kilogrammes...	11,953	8,356	597,650	417,800
Amber, bones, etc..................do......	104,650	139,211	1,569,750	2,088,165
Manufactured..................do......	14,743	12,487	368,575	312,175
Buttons, all kinds..................do......	310,483	271,058	1,552,415	1,355,290
Playing games and toys..................do......	271,563	191,945	1,629,378	1,151,670

Table showing the quantity and value of imports into Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 13.—Sundries—Continued.				
Passementeries:			*Pesetas.*	*Pesetas.*
Silk ....kilogrammes...	3,588	3,284	179,400	164,200
Wool..................do......	43,340	29,669	433,400	296,690
Other classes..................do......	70,837	65,995	566,696	527,960
Elastic goods..................do......	131,188	97,587	1,886,689	1,400,749
Total..................	....	....	8,783,953	7,714,699

RÉSUMÉ.

Classes.	1889.	1890.
	Pesetas.	*Pesetas.*
Class 1 (minerals, glassware, stone, etc.)..................	65,312,055	74,348,749
Class 2 (metals and manufactures)..................	34,126,772	42,406,436
Class 3 (drugs, medicines, etc.)..................	48,702,424	49,518,480
Class 4 (cotton and manufactures)..................	105,742,438	86,323,296
Class 5 (vegetable fibers and manufactures)..................	32,405,210	32,972,289
Class 6 (wool and manufactures)..................	43,445,236	37,499,273
Class 7 (silk and manufactures)..................	22,745,709	17,898,521
Class 8 (paper and manufactures)..................	9,085,107	7,765,432
Class 9 (wood and manufactures)..................	55,946,701	55,665,452
Class 10 (animals and their products)..................	48,247,790	49,218,599
Class 11 (machinery, vessels, etc.)..................	45,626,328	52,103,597
Class 12 (cereals and breadstuffs)..................	178,389,398	219,400,419
Class 13 (sundries)..................	8,783,953	7,714,699
Total..................	698,559,121	732,835,242

Table showing the quantity and value of exports from Spain during the years 1889 and 1890, according to tariff classification.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 1.—Minerals, ceramic, etc.			*Pesetas.*	*Pesetas.*
Coal..................tons...	16,633	16,771	415,827	83,855
Tar, pitch, etc..................kilogrammes...	2,246,000	2,600,809	291,984	318,993
Galena:				
Not argentiferous..................do......	628,381	882,101	163,379	229,346
Argentiferous..................do......	9,808,222	9,848,975	5,296,440	5,318,648
Other minerals of lead..................do......	2,209,824	2,223,965	508,260	511,512
Blende..................do......	12,894,908	17,263,510	296,582	397,161
Calamine..................do......	23,213,450	29,761,960	766,044	982,842
Phospholite..................do......	8,520,064	20,000	85,201	200
Minerals:				
Antimony..................do......	254,410	596,885	76,323	179,065
Copper..................do......	762,249,834	680,277,509	28,965,494	25,855,547
Mata cobriza..................do......	18,775,290	24,313,890	1,088,967	1,410,205
Iron ore..................do......	5,051,613,352	5,648,810,770	55,567,748	62,136,916
Pyrites of iron..................do......	121,928,106	163,800,483	1,219,281	1,608,250
Manganese..................do......	8,187,481	5,570,240	409,374	278,512
Stones and mosaics..................do......	950,597	745,336	285,180	223,602

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 1.—Minerals, ceramic, etc.—Continued.				
Tiles:			*Pesetas.*	*Pesetas.*
Painted with colors......kilogrammes...	301,185	325,281	135,534	146,377
Common......do......	119,196	111,751	95,356	89,300
Fine and porcelain......do......	14,785	25,919	14.785	25,919
Total......			95,681,759	99,826,252
Class 2.—Metals and their manufactures.				
Gold:				
Bars and coin......			136,090	273,420
Jewels and table service......			36,000	52,500
Silver:				
Bars and coin......			13,106,048	4,663,474
Jewels and table service......			134,736	27,888
Jewelers' waste......kilogrammes...	22,980	6,593	344,700	98,895
Iron (ingots)......do......	65,470,690	67,446,379	5,237,656	5,395,710
Wrought iron and steel bars......do......	147,380	490,441	51,584	171,653
Railway rails (old)......do......	14,213,960	8,160,187	994.977	571,213
Iron goods......do......	3,620,168	1,281,978	1,991,092	705,088
Copper:				
Shell......do......	34,811,771	38,934,380	27,849,417	31,683,295
Black and old......do.....	2,557.307	123,895	3,835,961	185,843
Bars......do......	2,671	5,779	5,475	11,846
Sheets and nails......do......	44,063	52,204	116,767	138,130
Brass sheets......do......	16,715	42,445	38,444	97,624
Copper, brass, and bronze manufactures......do......	200,217	67,542	1,001,085	337,630
Quicksilver or mercury......do......	1,974,512	989,107	11,057,268	5,538,999
Pig lead:				
Argentiferous......do......	71,942,987	81,230,604	26,618,906	30,055,323
Poor in silver......do......	65,012,812	59,094.405	21,454,228	19,501,154
Lead:				
In tubes......do.....	19,776	13,500	8,899	5,974
Other objects......do......	724,919	322,544	275,469	122,567
Zinc bars and sheets......do......	2,494,420	2,010,324	1,371,931	1,105,678
All other metals and their alloys......do......	78,722	301,319	236,166	903,957
Total......			115,902,899	101,687,861
Class 3.—Drugs and chemical products.				
Oil:				
Almond......kilogrammes...	1,857	1,762	5,757	5,462
Peanut and other seed......do......	183,458	165,424	155,639	140,610
Olive lees......do......	594	6,362	226	2,418
Barks for tanning......do......	2,084,267	2,703,961	416,853	540,792
Peanuts......do......	738,436	566,200	287,992	220,816
Licorice:				
Root......do......	2,743,606	2,765,731	823,082	829,718
Paste and extract......do......	466,288	688,782	652,803	964.295
Vegetable products (unclassified)......do......	1,179,343	515,975	1,297,276	567,573
Sulphur......do......	56,343	143,968	7,326	18,716
Tartar and lees of wine......do......	323,601,624	258,040,064	4,854,026	3,870,600
Cream of tartar......do......	365,888	617,738	951,308	1,606,119
Soap, common......do......	6,564,745	7,895,314	3,938,846	4,737,118
Candles......do......	1,074,336	1,240,100	1,772,654	2,046,165
Perfumery and essences......do......	54,844	51,213	438,752	406,714
Lees of wine......do......	4,603,432	5,066,086	9,667,206	10,638,781
Total......			25,270,046	26,595,967

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889	1890.
Class 4.—Cotton manufactures.				
Cotton textures:			*Pesetas.*	*Pesetas.*
White .... kilogrammes	2,719,201	2,587,232	13,596,055	13,036,160
Dyed and stamped .... do	923,683	1,151,547	6,465,731	8,060,829
Knit goods .... do	505,510	759,481	3,393,096	4,556,886
Total	....	....	23,454,882	25,653,875
Class 5.—Vegetable fibers and their manufactures.				
Hemp and flax yarns .... kilogrammes	23,696	27,214	58,056	66,673
Rigging and cordage .... do	626,203	570,966	720,133	656,611
Thread textures .... do	143,095	119,086	858,570	714,516
Printed textures .... do	2,003	2,730	20,030	27,360
Other vegetable fiber textures .... do	21,832	18,344	44,749	27,517
Lace .... do	1,384	1,888	1,184,480	855,360
Total	....	....	2,886,018	2,348,037
Class 6.—Wool and its manufactures.				
Wool:				
Unwashed .... kilogrammes	[illegible]	5,057,171	15,316,790	[illegible]
Washed .... do	36,752	48,222	152,521	200,122
Blankets .... do	7,667	13,413	61,336	108,304
Knit textures .... do	3,965	4,080	63,440	65,280
Woolen cloth:				
Pure .... do	[illegible]	[illegible]	1,872,255	1,851,927
Mixed with cotton .... do	6,556	8,116	85,644	105,443
Other textures of wool:				
Pure .... do	[illegible]	[illegible]	1,924,021	[illegible]
Mixed with cotton .... do	[illegible]	[illegible]	163,020	384,810
Total	....	....	19,639,027	[illegible]
Class 7.—Silk and its manufactures.				
Silk:				
In cocoons .... kilogrammes	23,655	[illegible]	407,515	757,887
Waste .... do	[illegible]	[illegible]	[illegible]	643,346
Raw .... do	[illegible]	[illegible]	[illegible]	[illegible]
Sewing .... do	[illegible]	466	[illegible]	[illegible]
Textures:				
Plain .... do	[illegible]	8,015	947,435	[illegible]
Figured .... do	[illegible]	[illegible]	[illegible]	[illegible]
Velvet .... do	9	157	[illegible]	[illegible]
Lace .... do	64	16	[illegible]	[illegible]
Total	....	....	[illegible]	[illegible]
Class 8.—Paper and its manufactures.				
Printing paper .... kilogrammes	[illegible]	[illegible]	[illegible]	[illegible]
Handmade .... do	[illegible]	[illegible]	[illegible]	[illegible]
Letter paper and envelopes .... do	[illegible]	[illegible]	[illegible]	[illegible]
Cigarette .... do	[illegible]	[illegible]	[illegible]	[illegible]
Books and music paper .... do	[illegible]	[illegible]	[illegible]	[illegible]
Engraving .... do	[illegible]	[illegible]	[illegible]	[illegible]
Packing paper .... do	[illegible]	1,046,994	[illegible]	[illegible]
Total	....	....	[illegible]	[illegible]
Class 9.—Lumber and other articles.				
Lumber .... kilogrammes	[illegible]	[illegible]	[illegible]	[illegible]
Cork:				
Sheets .... do	[illegible]	[illegible]	[illegible]	[illegible]
In small pieces .... do	[illegible]	11,791	[illegible]	117,010

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 9.—Lumber and other articles—Continued.				
Cork—Continued.			*Pesetas.*	*Pesetas.*
For bottles……kilogrammes…	1,416,459	1,579,203	19,830,426	22,108,842
In other forms……do……	1,508,460	2,914,820	226,269	437,223
Spanish grass……do……	43,792,527	49,338,956	7,882,655	8,861,012
Manufactured……do……	1,487,580	538,122	416,522	150,674
Rags for paper manufacturing……do……	116,635	21,632	40,822	7,571
Total……	……	……	31,906,704	35,517,417
Class 10.—Animals and animal products				
Horses……number…	2,615	3,100	1,176,750	1,395,000
Mules……do……	1,836	1,477	826,200	664,650
Asses……do……	1,191	506	83,370	35,420
Cattle……do……	52,124	46,078	18,243,400	16,127,300
Sheep……do……	33,663	12,836	403,956	154,032
Goats……do……	1,684	2,297	20,208	27,564
Swine……do……	2,838	7,666	283,800	776,600
Skins:				
Sheep……kilogrammes…	1,351,824	1,520,274	2,433,284	2,736,493
Goat……do……	614,178	700,547	2,303,167	2,627,051
Other……do……	550,416	628,816	880,793	1,006,105
Sole……do……	47,168	56,881	424,512	507,429
Tanned hides:				
Sole leather……do……	12,509	13,317	87,563	93,219
Calf hides (dressed)……do……	83,423	63,880	367,653	702,680
Sheepskins (dressed)……do……	270,798	328,390	1,624,788	1,970,340
Boots and shoes……do……	994,835	1,066,155	15,917,360	17,058,480
Total……	……	……	45,076,804	45,872,363
Class 11.—Machinery.				
Machinery……kilogrammes…	841,216	842,077	1,068,344	1,069,437
Class 12.—Grain and food.				
Fowl and game……kilogrammes…	87,550	129,093	175,100	258,186
Fresh meat……do……	5,046	2,524	5,046	2,524
Hams and salt meat……do……	131,050	154,661	209,680	247,458
Bacon and lard……do……	70,764	60,385	134,336	105,674
Butter……do……	319,955	289,835	895,874	811,538
Fish:				
Fresh……do……	702,133	1,662,820	175,534	415,705
Lobster and all shellfish……do……	209,948	259,325	314,923	388,[illegible]
Sardines……do……	4,555,782	6,000,156	2,186,751	2,[illegible],075
All other (smoked)……do……	917,456	1,439,729	871,581	1,307,743
Rice……do……	1,519,374	5,576,430	683,718	2,509,[illegible]
Barley……do……	554,870	154,083	77,681	21,572
Rye……do……	917,480	647,885	146,707	103,662
Indian corn……do……	9,535	12,900	1,812	2,451
Wheat……do……	162,354	699,219	29,223	125,[illegible]
Other cereals……do……	3,650,111	1,225,262	474,514	150,257
Wheat flour……do……	23,896,168	31,643,416	7,480,771	10,[illegible]
Chick-peas……do……	3,569,507	4,083,735	1,[illegible]	2,246,054
Other dried vegetables……do……	2,654,360	3,700,491	822,841	1,147,152
Garlic……do……	3,044,953	4,306,319	2,192,366	3,[illegible]
Onions……do……	14,924,031	17,[illegible]	2,238,604	[illegible],592,489
Beans (green)……do……	18,402	49,076	5,521	14,723
Potatoes……do……	2,940,034	3,502,821	264,[illegible]	315,[illegible]
Other vegetables……do……	3,196,382	3,581,612	479,457	537,[illegible]
Olives……do……	3,538,653	4,903,961	2,477,056	3,452,773

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 12.—Grain and food—Continued.				
Almonds:			*Pesetas.*	*Pesetas.*
In shell......kilogrammes...	1,827,022	2,604,810	1,735,728	2,474,569
Shelled......do......	3,400,000	1,375,154	6,800,000	2,750,308
Filberts......do......	5,251,114	5,775,457	2,783,001	3,060,992
Chestnuts......do......	1,293,346	1,185,468	262,536	262,802
Figs (dried)......do......	3,036,230	4,429,374	850,144	1,240,225
Walnuts......do......	67,948	193,792	23,102	65,889
Raisins......do......	28,899,180	50,815,492	17,339,513	30,489,295
Other dried fruits......do......	160,474	417,638	64,190	167,055
Pomegranates......do......	1,566,521	1,762,732	313,303	352,546
Lemons......do......	5,193,522	3,509,486	934,884	991,707
Oranges......do......	97,771,889	101,472,006	19,554,378	20,294,401
Grapes......do......	16,942,041	25,324,652	7,623,918	11,400,093
Other fresh fruits......do......	7,282,783	7,060,123	1,747,868	1,694,429
Aniseed......do......	874,367	872,901	872,367	874,901
Saffron......do......	29,632	43,426	2,963,200	4,342,600
Cumin......do......	151,761	81,558	182,113	97,870
Capsicums......do......	1,508,365	1,399,239	1,357,529	1,259,315
Olive oil......do......	30,484,720	14,563,046	26,826,554	12,815,481
Carob......do......	1,352,210	127,250	162,271	15,272
Canary seed......do......	796,207	660,218	214,976	178,250
Preserved foods......do......	5,513,226	6,177,171	8,269,841	9,265,757
Sausage......do......	289,215	340,100	1,446,075	1,700,500
Chocolate......do......	278,646	315,331	835,938	945,093
Sweets......do......	240,877	260,157	602,192	650,318
Spirits (common)......hectolitres..	402	6,173	294,136	370,380
Liquors of aniseed......do......	6,666	10,609	433,328	695,435
Spirits of wine......do......	1,078	360	80,851	27,000
Common wine:				
To France......do......	7,086,202	8,002,502	212,586,060	240,075,060
To England......do......	77,779	105,605	2,333,370	3,168,150
To the rest of Europe and Africa......do......	112,247	127,464	3,367,410	3,823,920
To foreign America......do......	645,993	470,858	19,370,790	14,125,740
To Asia and Oceanica......do......	33,301	24,173	999,930	725,190
To Cuba and Porto Rico......do......	450,308	466,105	13,509,240	13,983,150
Total......do......	8,405,830	9,196,707	252,174,900	275,901,210
Sherry:				
To France......do......	54,994	55,352	7,149,220	7,195,760
To England......do......	84,213	114,559	10,247,680	14,892,670
To the rest of Europe and Africa......do......	19,520	20,818	2,537,600	2,766,140
To Cuba and Porto Rico......do......	2,718	2,250	[illegible]	297,500
To foreign America......do......	21,011	26,682	[illegible]	3,468,660
To Asia and Oceanica......do......	905	792	117,650	[illegible]
Total......do......	183,361	220,453	[illegible]	[illegible]
Other wines:				
To France......do......	34,211	38,621	3,078,990	[illegible]
To England......do......	[illegible]	6,830	405,810	[illegible]
To the rest of Europe and Africa......do......	[illegible]	8,169	1,513,440	[illegible]
To Cuba and Porto Rico......do......	1,573	948	141,570	[illegible]
To foreign America......do......	[illegible]	5,225	1,253,970	470,250
To Asia and Oceanica......do......	375	125	35,550	11,250
Total......do......	71,437	59,918	6,429,330	[illegible]
Total grain and food......	......	......	412,000,609	452,365,451

Table showing the quantity and value of exports from Spain, etc.—Continued.

Articles.	Quantity.		Value.	
	1889.	1890.	1889.	1890.
Class 13.—Sundries.			*Pesetas.*	*Pesetas.*
Fans.....kilogrammes...	48,229	44,724	1,205,725	1,118,100
Acpargate or hemp shoe.....do.....	45,063	53,508	540,756	642,096
Wax light.....do.....	25,953	34,205	51,906	68,410
Playing cards.....do.....	196,170	197,205	1,177,020	1,183,230
Total.....	.....	.....	2,975,407	3,011,836

RÉSUMÉ.

Classes.	1889.	1890.
	Pesetas.	*Pesetas.*
Class 1 (minerals, glassware, stone, etc.).....	95,681,759	99,826,232
Class 2 (metals and manufactures).....	115,902,899	101,687,861
Class 3 (drugs, medicines, etc.).....	25,270,046	26,595,967
Class 4 (cotton and manufactures).....	23,454,882	25,653,875
Class 5 (vegetable fibers and manufactures).....	2,886,018	2,348,037
Class 6 (wool and manufactures).....	19,639,027	13,049,786
Class 7 (silk and manufactures).....	4,501,855	4,040,661
Class 8 (paper and manufactures).....	9,961,918	10,751,258
Class 9 (wood and manufactures).....	31,906,704	35,517,417
Class 10 (animals and their products).....	45,076,804	45,872,363
Class 11 (machinery, vessels, etc.).....	1,068,431	1,069,437
Class 12 (cereals and breadstuffs).....	412,000,609	452,365,451
Class 13 (sundries).....	2,975,407	3,011,836
Total.....	790,326,272	821,790,201

ROBERT W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, February 7, 1891.

IMPORT TARIFF AT COLON.

REPORT BY CONSUL SIMS.

On the 10th of January the following import duties went into effect at this port, and I invite your attention to the fact that all of these duties affect American producers or manufacturers. The following is the schedule:

Liquors of all kinds, 5 cents per pound; salt, 1½ cents per pound; tobacco of all kinds, whether for chewing or smoking, 10 cents per pound. All of these import duties are on gross weight, which makes the tariff very high. I desire to call your attention, also, to the fact that about a year ago the Government here began, and still continues, to levy an import duty on salted beef, pork, and pigs' tongues of 5 cents per pound gross weight. These meats are only imported from the United States.

These, so far as I know, are the only import duties levied here, and all of these affect seriously American manufacturers and producers, while I do not now recall a single agricultural, mining, or manufacturing product from this district on which the United States Government lays any tariff. I believe that since I took charge of this consulate there has never been any invoice of goods certified by me on which any import duty was required by the United States Government. Cocoanuts, bananas, India rubber, ivory nuts, and South American wood and shell all go to the United States from here free, and they are the only products of this country. A relief from the enormous tax of 5 cents per pound on our salt meats would insure a wonderful increase of trade to American interest.

W. E. SIMS,
Consul.

UNITED STATES CONSULATE,
Colon, January 16, 1891.

COLOMBIAN CUSTOMS DUTIES.

REPORT BY CONSUL SIMS, OF COLON.

I deem it my duty to call your attention specially to my report of January 16, 1891, and to add thereto, for the information of American shippers, especially those in New York and New Orleans, that the Government here is very stringent and exacting in enforcing their new revenue laws, and threaten to fine $800 and imprison if the invoices do not contain the exact gross weight of articles such as are mentioned in said report.

For instance, an American firm here received a lot of whisky from New York. It was bottled and packed in cases, and the gross weight was certified by the consignor in New York and the Colombian consul there; but it weighed about 40 or 50 pounds more than the certificate called for, and it was with difficulty that the fine and imprisonment were not enforced, and notice has been given that any future violation of the law will be punished.

W. E. SIMS,
Consul.

UNITED STATES CONSULATE,
Colon, February 14, 1891.

CARPET MANUFACTURE IN BIRMINGHAM.

REPORT BY CONSUL JARRETT.

The Department carpet circular of June 10, 1889, was received at this consulate on October 29 last, at which time I was away on leave of absence. As soon as possible after my return to my post I took up the matter, but found it very difficult to get reliable information, owing to the attitude of the manufacturers of this district, who, perhaps not unnaturally, decline to give any particulars on what they consider private affairs pertaining to their business. This accounts for the delay on my part in replying to your circular. I now beg leave to submit the following report:

MILLS AND ESTABLISHMENTS.

List of mills or distinct establishments engaged in the manufacture of carpets in the district, with number of looms employed.

Names of firms.	Address.	No of looms.
John Bennie & Co	Jubilee Carpet Works, Kidderminster	*128
John Brinton & Co. (limited)	Exchange street, Kidderminster	50
Childema Carpet Co. (limited)	Green street, Kidderminster	30
Frederick Cole	Worcester Road Carpet Works, Kidderminster	6
H. J. Dixon & Co. (limited)	Long Meadow Mills, Kidderminster	61
W. Green & Sons	New Road Mills, Kidderminster	76
Naylor & Lloyd	Mill street, Kidderminster	44
T. & A. Naylor	Green street, Kidderminster	†36
Morton & Sons	New Road, Kidderminster	87
E. Hughes & Sons	Mill street, Kidderminster	80
J. Hampshires & Sons	do	137
G. W. Oldland & Co	do	24
Do	Green street, Kidderminster	20
R. Smith & Co	Mill street, Kidderminster	‡328
Tomkinson & Adam	Church street, Kidderminster	§400
M. Whittall & Co	Stour Vale Mills, Kidderminster	51
Woodward, Grosvenor & Co	Worcester Cross, Kidderminster	64
H. R. Willis & Co	Worcester Cross Factory, Kidderminster	42
W. J. Bannister	New Road, Kidderminster	9
Potter & Lewis	do	30
Whittall Bros	Vicar street, Kidderminster	70
H. & M. Southwell (limited)	The Friars, Bridgnorth	‖72
R. Smith & Co	Stourport	22
C. Harrison & Son	do	47
T. B. Worth & Son	Seven Valley Mills, Stourport	70
Barton & Sons	Vicar street, Kidderminster	50
Total		1,993

NOTE.—All looms are driven by power, except the rug looms, which are hand. In addition to the above every manufacturer has a few rug looms upon his premises.

*98 Brussels and 30 tapestry.
†15 wide and 21 narrow, Kidderminster.
‡28 Brussels and 300 hand rug.
§150 Axminster and 250 rug.
‖50 Brussels and 22 Axminster and velvet.

NUMBER OF LOOMS.

The number of looms in each establishment is given in the foregoing table. The total number of looms is 1,993, of which 1,443 are power and 550 hand looms, employing 1,993 men and 994 boys, one boy attending to two weavers.

GRADES OF CARPET PRODUCED.

I have been unable to ascertain the portion produced of pure carpets to those of lower grades. The principal manufactures are those of Brussels, velvet, and Axminster. The tapestry trade is nearly *nil.* in this district, owing, the manufacturers claim, to the operatives demanding wages which rendered the trade unremunerative, the operatives in the north of England and Scotland working at a considerably lower figure. The quantities of the lower grades manufactured would be near one-fifth of the whole.

WAGES, ETC.

It is estimated that the number of persons who find wage employment in the manufacture of carpets in the district is between 5,000 and 6,000. None are employed in their homes. The hours of labor are from 54 to 60 hours each week. The order for each day is as follows: From 6 until 8:30 a. m., when half an hour is allowed for breakfast; from 9 a. m. to 1 p. m., when an hour for dinner is allowed; from 2 to 5 p. m., when work ceases. Weavers are paid for weaving Brussels three-fourths, five-eighths, and one-half of a yard wide 5 cents per yard; creelers, or assistants, 4 cents in every 24 cents earned by the two weavers on whom they attend, or about $2.19 per week. In some establishments weavers are paid by the week, when their wages are $6.81 per week.

Table showing the wages of other factory employés.

Description.	Wages.
Spool-winders (females)	49 cents per 100 spools.
Linen-winders (females)	26 cents per 100 spools.
Shearers	$4.14 to $6.08 per week.
Twisters	40 cents for 256 bobbins (1 frame).
Stampers	15 cents per 100 cards.
Starchers	53 cents per small chain of 260 yards.
Do	85 cents each for double stuffers.

The wages paid in the spinning mills are $1.82 per week to girls who are employed as spinners and $3.65 to $4.14 per week to women who are employed as drawers and keelers. The overlookers and assistants of various sorts are men, whose wages run from $3.89 to $7.30 per week. Foremen are paid from $7.30 to $9.73 per week; head engineers, from $9.73 to $19.46 per week; engineers, from $6.08 to $8.51 per week; assistants, $4.38 per week. Chenile rug looms are worked by women, whose wages are about $4.14 per week.

The manner of living of the work people engaged in the carpet industries is very much the same as that of artisans generally employed in manufactures in this country. They live in small brick or stone houses of two, three, or four rooms, which rent at from 97 cents to $1.46 per week. Among the more thrifty and economical the houses are clean and comfortable, but plainly furnished. But the homes of the masses of the work people are dirty, very poorly furnished, and in quite a number of cases I found no furniture except a few dilapidated chairs, with a more dilapidated plain deal table for a companion. Carpets or rugs are quite out of the question, only a few homes of the higher-waged artisans possessing any. The food is of the commonest and cheapest kind, consisting, generally, of plain bread and butter or cheese, with tea or sometimes coffee, occasionally eggs or meat and vegetables, and sometimes a little fruit. Generally the clothing is very coarse, of inferior quality, and bad fitting. Beer-drinking is a very common habit. In a word, their manner of living may be termed a hand-to-mouth existence.

HOW THE INDUSTRY IS CONDUCTED.

The industry is conducted unitedly, except that the spinning is entirely an independent department. Only two firms supplying carpet yarns carry on the business of manufacturing yarns in Kidderminster.

HOW THE PRODUCT IS MARKETED.

The product is placed upon the market by means of an efficient staff of travelers, wholesale houses, and commission merchants. The travelers take orders from the retail houses.

WHERE THE PRODUCTS FIND CONSUMPTION.

The product finds consumption both at home and abroad. It is exported to every country in Europe, to the United States, South America, Australia, and South Africa. The ordinary terms of sale in England are payment by 4 months' bills from date of delivery, except in special cases. A practice has also grown up here of buyers insisting that the delivery of goods should be dated forward 2, and sometimes 3, months. With regard to the trade with the United States, credits are opened with shippers' agents in England, and the manufacturers draw on them on delivery of the goods at the shipping port. In the Australian trade, in a number of instances, the bills of lading are sent out to a bank in that country and are handed over to the purchaser upon his paying the amount to the bank; but the bulk of the business is done by 6 months' bills drawn on, and accepted by, the agents of the purchaser in London or trade discount allowed for cash payment. In the Canadian trade similar terms prevail, but the bulk of the business is done by sending the bills over for acceptance, and they are returned made payable at a London bank. In the German trade 4 months' bills are taken, which are accepted by the purchasers and returned to the seller. In the French and Belgian trade bills at 4 months are drawn on the purchaser and accepted payable in London or at the office of the seller. In the Swedish trade bills are also drawn on the purchaser and paid through a London bank. In the Russian trade similar terms prevail. Of late there has been a disposition for two or more firms to amalgamate by forming a company with a limited liability, and several such transactions have recently taken place.

JOHN JARRETT,
Consul.

UNITED STATES CONSULATE,
Birmingham, January 23, 1891.

EXPORTS FROM AUSTRIA TO THE UNITED STATES.

REPORT BY CONSUL-GENERAL GOLDSCHMIDT, OF VIENNA.

Value of declared exports from Austria-Hungary to the United States during the year ended December 31, 1890.

Articles.	Buda-Pesth.	Prague.	Reichenberg.
Albumen	....	$1,855.68	....
Antiquities	$480.31	....	....
Argols	11,177.65	....	....
Artificial flowers	....	5,900.46	....
Art, works of	142.78	800.40	....
Baskets and basket ware	2,417.18	5,775.42	....
Beans and lentils	126,315.16	60,966.00	....
Bed feathers	253.96	110,415.41	....
Beer	....	60,449.44	....
Beet-root sugar	....	2,584,908.84	....
Black lead	....	18,900.14	....
Books and papers	3,476.20	5,408.63	....
Brushes and bristles	72,656.56	....	....
Buttons	....	207,129.80	$125,578.58
Carlsbad Sprudel salt	....	14,450.17	....
Carriages	179.11	....	....
Chenilles and embroideries	....	2,517.54	....
Cloth and woolen goods	....	103,000.69	14,240.82
Cutlery	....	13,040.11	282.25
Drugs and chemicals	....	46,207.19	....
Fancy goods and jewelry	....	65,988.55	204,732.94
Fruits, dried	124,043.00	14,413.93	....
Furniture	847.51	11,150.64	3,903.08
Glassware	13,134.41	571,744.20	466,126.15
Gloves	....	111,000.28	....
Gum	511.03	....	....
Hair:			
Animal	....	3,270.65	....
Human	....	16,371.26	....
Herbs, roots, and leaves	7,880.10	901.51	....
Hops	....	55,445.20	....
Leather and skins	4,415.20	16,400.94	....
Linen and cotton goods	....	180,528.50	110,609.13
Machines and parts of	548.18	....	....
Metal ware	2,101.96	16,800.77	8,432.26
Mineral water	92,308.41	14,528.80	....
Mirror glass	....	78,652.90	....
Musical instruments	....	11,800.33	1,815.12
Oils and paints	777.00	....	952.85
Paper goods	....	51,108.98	11.72
Porcelain and pottery	16,173.00	617,201.90	51,669.50
Potash	....	20,788.76	....
Pulp	1,010.77	101,000.44	....
Seeds	1,052.48	....	....
Silks and velvets	....	136,807.21	....
Skeletons	....	1,279.72	....
Smokers' articles	69.00	4,107.20	....
Stationery	....	1,269.14	[illegible]
Tartar, crude	15,110.55	....	....
Toys	....	16,324.31	[illegible]
Umbrella fixtures	1,307.40	....	[illegible]
Wines and liquors	77,173.14	461.[illegible]	[illegible]

Value of declared exports from Austria-Hungary to the United States, etc.—Continued.

Articles.	Buda-Pesth.	Prague.	Reichenberg.
Wooden goods		$1,997.50	$4,928.72
Wool		53,533.72	
Miscellaneous	$3,463.66	6,051.48	1,002.82
Total	533,095.00	6,251,455.59	1,086,017.94
Total for 1889	338,446.41	2,826,269.99	622,847.02
Increase	194,648.59	3,425,185.60	463,170.92

Articles.	Trieste.	Vienna.	Total.
Albumen		$9,395.87	$11,251.55
Amber		3,223.08	3,223.08
Antiquities		1,244.74	1,725.05
Argols	$6,[illegible].37	130,207.01	147,580.03
Artificial flowers		2,050.05	7,950.51
Art, works of		23,517.56	24,719.74
Baskets and basket ware		12,985.28	21,167.88
Beans and lentils	107,496.41	70,277.39	361,254.96
Bed feathers			116,668.47
Beer		2,125.34	62,574.77
Beet-root sugar		1,303.68	3,585,812.52
Black lead			18,902.14
Books and papers	2,930.74	3,510.51	15,326.17
Brushes and bristles		13,816.83	36,512.59
Buttons		1,736,651.24	2,119,369.12
Carlsbad Sprudel salt			14,452.17
Carriages	224.27	765.58	1,168.98
Chenilles and embroideries		14,727.62	16,965.46
Cloth and woolen goods		158,697.24	276,028.75
Cutlery		100.83	15,423.19
Cuttle-bones	18,701.26		18,701.26
Dresses		5,619.21	5,619.21
Drugs and chemicals	1[illegible],[illegible].56	42,747.03	88,630.28
Fancy goods and jewelry		127,[illegible]63.0[illegible]	450,285.17
Fans		227,319.56	227,319.56
Fruits, dried	1,220,2[illegible].17	884.75	1,359,583.85
Furniture		111,[illegible].07	127,467.22
Glassware		98,854.32	954,049.17
Gloves		58,006.42	224,305.70
Gum	105,942.63	22,214.48	128,968.14
Hair:			
Animal		3,819.18	7,175.83
Human		1,967.88	35,341.83
Hemp	8,091.36		8,091.36
Herbs, roots and leaves	39,287.34	71.50	47,611.53
Hollow ware		16,753.02	16,753.02
Hops		2,424.17	57,870.27
Insect powder and flowers	125,830.62	4,789.49	1[illegible],[illegible].11
Leather and skins	51,170.78	96,183.66	169,047.44
Linen and cotton goods		67[illegible],[illegible].[illegible]4	966,525.07
Macaroni	4,861.07		4,861.07
Machines and parts of		6,303.84	6,852.39
Matches		1,9[illegible].[illegible]6	1,994.56
Meerschaum, crude		64,342.16	64,342.16
Metal ware	1[illegible].13	66,130.25	88,032.37
Mineral water	44.69		112,469.94
Mirror glass			18,[illegible].[illegible]0
Musical instruments		8,183.49	34,058.94
Oils and paints	21,41[illegible].36	742.62	23,911.03
Ozocerite and ceresin	349.54	53,109.85	53,459.39

Value of declared exports from Austria-Hungary to the United States, etc.—Continued.

Articles.	Trieste.	Vienna.	Total.
Paper goods		$8,051.98	$59,172.68
Porcelain and pottery		23,378.79	731,785.28
Potash			30,288.76
Pulp		105,791.29	206,803.72
Rags	$1,800.10		1,800.10
Scientific instruments		2,928.86	2,928.86
Seeds	14,671.11		15,729.57
Silks and velvets		275,635.53	412,032.79
Skeletons		1,996.16	3,275.88
Smokers' articles	219.27	169,131.12	173,526.59
Sponges	12,648.26		12,648.26
Stained glass		19,412.34	19,412.34
Stationery		7,703.26	9,185.07
Stone and bricks		3,529.09	3,529.09
Tartar, crude	10,034.89		25,145.44
Toys		1,657.25	19,509.99
Umbrella fixtures		62,718.82	64,224.22
Wax figures		1,628.35	1,628.35
White lead	9,738.16		9,738.16
Wicks		1,907.08	1,907.08
Wines and liquors	4,159.95	32,802.86	114,797.53
Wooden goods	505.64	13,801.78	21,233.64
Wool	4,266.11	13,759.25	71,539.08
Miscellaneous	5,175.08	7,659.23	23,352.29
Total	1,775,918.87	4,688,738.17	14,355,225.57
Total for 1889	1,225,357.42	4,124,925.49	9,121,846.33
Increase	550,561.45	563,812.68	5,233,379.24

JULIUS GOLDSCHMIDT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, January 1, 1891.

MANUFACTURE OF PIECE-DYED SATINS AT LYONS.

REPORT BY CONSULAR CLERK HANSMANN.

I have the honor to submit the following report on the cost of production of piece-dyed satins, having special reference to the prices at which said goods are now being invoiced in consignment and to the accuracy of the estimates of cost of production made by the silk experts attached to this consulate.

The information has been obtained by personal visits to the offices of all the manufacturers whose affairs are herein discussed, by examination of their books and factories, by inquiring of laborers, dyers, silk and yarn merchants, and from such other sources as seemed reliable, the statements of cost of production furnished by the manufacturers in compliance with the act of June 10, 1890, having been carefully compared with each other and tested as to their accuracy.

Piece-dyed satins constitute one of the leading articles of export from this consular district. As the goods are almost always consigned, and as the qualities made for New York are rarely sold for other markets, the question of valuations presents many difficulties.

The manufacture of these goods is limited to a small number of concerns, almost all of which carry on the work on a large scale. For my investigation I have confined myself to the following houses, whose shipments—all in consignment—cover perhaps 90 per cent. of all of these goods shipped to the United States: Bardon, Ritton & Mayen to W. H. Graef & Co., Bompiat & Favre to J. J. Buchey & Co. and Passavant & Co., E. Chevillard to W. H. Graef & Co., Gindre & Co. to A. J. Badenhausen and E. M. Benjamin, A. Girard & Co. to Frederick Vietor & Achelis, J. & P. Michel & Co. to Iselin, Neeser & Co., and L. Permezel & Co. to Hoeninghaus & Curtiss.

Of these houses only the three last named possess factories of their own. A. Girard & Co. make the greater part of their piece-dyed goods in their own factories. J. & P. Michel & Co. succeed in making practically all their satins themselves. L. Permezel & Co. have recently purchased a factory with 450 looms, of which about 300 are engaged on piece-dyed satins. However, this house finds it necessary to employ from 1,000 to 1,200 looms outside of its own factory for the production of piece-dyed goods.

The other houses mentioned above own no factories, and this, it may be stated, is the general system prevailing at Lyons, experience having demonstrated it to be the most advantageous for those making only plain goods.

In the country surrounding Lyons there are numerous so-called "usiniers" (persons who own fully equipped factories and whose business it is to weave for the Lyons manufacturers). The manufacturer gives the usinier the raw material to be woven for a fixed sum per metre, the latter bearing all factory expenses. As there is much competition among these usiniers, their charges are always low, while in times of depression they accept work at a loss, merely to keep their factories running.

Manufacturers find it cheaper and safer to have plain goods woven by usiniers than to build or purchase factories of their own, for they thus never need run at a loss, they have a responsible party whom to hold for waste or damaged goods, they can give their entire attention to the sale and export of goods, to the favorable purchase of raw material, etc., without being engrossed in the time-absorbing question of the technic of weaving.

Only in the case of figured silks, where, if the design were given to an usinier, it would be stolen by competitors who have weaving done by the same party, is it found advantageous to weave the goods in one's own factory. In illustration of this I may say that each of the four firms mentioned as owning no factories has plenty of capital to buy or build a factory if such an investment were deemed profitable, and that, on the other hand, the three houses mentioned as owning factories operate them primarily with a view of protecting their novelties in figured goods.

ELEMENTS OF COST OF PRODUCTION.

Piece-dyed satins are composed of a chain (warp) of silk and a tram (weft or filler) of cotton. They are woven on power looms—the 46 and 48 centimetre widths in double piece—and, as their name implies, are dyed in the piece. The elements entering into the cost of production are: Raw material, viz, silk and cotton; labor, viz, winding and warping of the silk, weaving (including factory expenses), dying, finishing, and general expenses. These I will discuss in detail.

Silk.—The silk used is generally Italian or French "grege," varying in price from 52 to 60 francs per kilogramme. Some qualities of piece-dyed satin are made with Canton grege, the price of which varies from 44 to 48 francs per kilogramme. Silk is usually sold at 90 days, with 2 per cent. off. Houses of good standing who purchase large quantities usually realize a saving of 1 to 2 francs per kilogramme on the official price list of the chamber of commerce, but on a rising market higher figures than the *cours officiel* are generally paid. Many manufacturers speculate in raw silk, but, while these operations are sometimes successful, speculation in raw silk causes most of the failures among manufacturers.

Cotton.—Nos. 30 to 45 are the grades of cotton yarn preferred for the tram. The price varies from 3.75 to 4.25 francs per kilogramme, with 10 to 20 per cent. discount.

Winding and warping of the grege.—The winding and warping of the grege is usually done by the usinier at a fixed rate per kilogramme, which is paid him in addition to what he receives for weaving. Sometimes the grege is given out specially to be wound and warped, but this is the more expensive way and costs from 4 to 5.50 francs per kilogramme. The price paid the usinier, if for winding alone, varies from 2.25 to 3 francs per kilogramme; if for winding and warping, from 3.50 to 4 francs per kilogramme.

Those who own their own factories can not do this work for less than 3.50 francs per kilogramme, as the following calculation (furnished by J. & P. Michel & Co. and others) will show:

Wages paid for winding are from 1.35 to 1.50 francs per day. The average amount wound on spools is 1,200 grammes per day per laborer, making 1.20 francs per kilogramme wages paid for this operation. In preparing the silk for winding and in transferring the silk from the spools to the bobbins half as many laborers are employed as in the winding itself. Adding one-half to 1.20 francs gives 1.80 francs as the amount of wages paid per kilogramme for winding.

Wages paid for warping are 2.25 to 3 francs per day. Four hundred metres of warp is an average day's work. This equals, depending on the weight of the warp, from 1.5 to 8 kilogrammes, averaging, however, very nearly 4 kilogrammes. The wages paid in warping, therefore, average 65 centimes per kilogramme, making a total of 2.45 francs per kilogramme expended in wages in the winding and warping.

Numerous manufacturers assure me that the factory expenses and waste incident to winding and warping are never less than 50 per cent. of the amount expended in wages paid the workmen, while they often reach 60 per cent. Adding 50 per cent. to 2.45 francs gives 3.67 francs per kilogramme as the cost of winding and warping.

It may therefore be stated that 3.50 francs per kilogramme fairly represents the cost of winding and warping, whether it be performed by the usinier or in the factory of the manufacturer.

Weaving.—The price paid the usinier for weaving depends on the width of the goods and the weight of the chain. Goods woven in double piece cost less than woven in single. As has been stated, all factory expenses are borne by the usinier. Of the amount he receives for the weaving he pays about 60 to 65 per cent. to the workman, the latter always working by the metre. The usinier's factory expenses are not less than 50 to 60 per cent. of the amount he expends in wages for weaving and include wages of harnessing the looms; cost of light, heat, and power; interest on capital, taxes, insurance, wear and tear of machinery, deterioration of premises, waste, etc.

While deferring the detailed discussion of the cost of weaving to the following division of this report, I desire to state here that there can be no doubt that those owning their own factories pay fully as much for the weaving as those working through the usinier. While the former, no doubt, save the usinier's profit, his expenses of inspection and superintendence fully equalize this gain.

Dyeing.—The rates of dyeing accorded the large houses are uniform. The tariff per kilogramme for satins dyed in the piece is at present as follows:

	Francs.
White or cream	1.50
Fourrures (92 centimetres), black or brown	2.50
Black or colors	2.75
Duchesse in black or colors	3.00

Twenty per cent. discount from above rates is allowed the large manufacturers. The dyers' syndicate has announced that after December 1 next the rates will be 1.75 francs for white or cream and 3.50 francs for black or colors, with only 5 per cent. discount.

Finishing.—The price of finishing, like that of dyeing, is quite uniform. It depends on the width of the goods and is generally, for 46 to 60 centimetre widths, 5 centimes per metre; for 92-centimetre widths, 8 centimes per metre. Some houses pay only 4½ centimes per metre for 46 to 48 centimetre widths and 5½ centimes per metre for 56 to 60 centimetre widths, the average remaining 5 centimes per metre for the narrow widths.

General expenses.—Factory expenses are covered by the "winding and warping" and by the "weaving," this term referring primarily to office expenses, such as the following: Rent of office, hire of clerks and employés, interest on capital, taxes, insurance, and incidental expenses. Messrs. J. & P. Michel & Co. and others state that 5 per cent. of the total output is a fair figure for office expenses.

Those owning factories should state the cost of weaving and of winding and warping, so as to cover all factory expenses, or, if they state the mere wages paid under these heads, a special item of 5 to 8 per cent. should be entered for factory expenses in addition to the 5 per cent. for office expenses. In either case the sum of the items should equal the amounts paid to the usinier by those owning no factories.

EXPERTS' ESTIMATES OF COST OF PRODUCTION.

The cost of production of piece-dyed goods is calculated by the silk experts attached to this consulate in the following manner:

Silk.—A sample of the entire width of the goods is cut so as to equal a precise fraction of a metre in length. It is then carefully weighed, and the weight of the goods per metre and per 100 metres is estimated. The sample is next placed under the microscope for the determination of the "armure," or composition of the goods. By this is meant the number of threads of tram the chain passes over for every one that it passes under. For piece-dyed satins this varies from six to fourteen, the number being found by actual count. Then a thread of the tram is followed and the number of chain or warp thread passing under it per centimetre is counted. This number multiplied by the number of the armure gives the number of warp threads per centimetre, and this number multiplied by the width of the goods in centimetres gives the total number of warp threads. Eighty warp threads constitute a "portée," a term used to indicate the unit of quantity when speaking of the warp.

The next step is to ascertain the fineness of the silk. A number of warp threads are carefully separated, and the number of fibers composing each is counted under the microscope. The average of this count gives the fineness of the silk. The number of portées in the chain and the number of fibers (*deniers*) composing the silk being known, the quantity or weight of warp in 100 metres of goods is determined by reference to a table which has the same authority in the silk world as a table of logarithms in mathematics The weight of the silk warp in 100 metres being known, it is deducted from the total weight of the goods, and the remainder is the weight of the cotton tram, for in the process of dyeing and finishing these goods no sensible change of weight results. The weight of the raw material is thus ascertained with mathematical exactness.

The next step is to ascertain the quality and origin of the silk, in order to establish its value. As has been stated, the silks employed in piece-dyed satins are either French, Italian, or Canton. Between the grege of France and Italy there is practically no difference of price. Canton silk is easily distinguished from the others by reason of the irregular size of the fibers and the irregular number of fibers in the thread. The question of finding the quality of the silk presents no great difficulty to the expert, however confusing it may be to the uninitiated. The value of the silk is taken from the official price list of the chamber of commerce, standard discounts deducted.

Cotton.—The cotton thread in the tram is easily disposed of. The manner of ascertaining its weight has already been explained. For singles there is practically no difference in price; doubles and bleached yarns are slightly higher. The experts take the ruling market price for the cotton, deducting trade discounts.

The quantity and value of the raw material being known, the cost of transforming it into the finished fabric is readily estimated by reference to fixed schedules of figures.

Winding and warping of the silk.—Formerly the experts put 5 francs per kilogramme for winding and warping into their calculations, but about 2 months ago reduced the figure to 4 francs per kilogramme. Now, having found 3.50 francs to be about the correct figure for the large establishments, the experts take this sum for their calculations. When the silk is given out specially to be wound and warped, from 4 to 5.50 francs per kilogramme are paid; but where the work is done by the usinier (who also does the weaving), or when done by manufacturers in their own factories, the expense, as has been shown, is about 3.50 francs per kilogramme.

Weaving.—For weaving a tariff has been prepared, and is changed from time to time to adapt itself to the state of the market. It is based upon actual experience in the business on information obtained from the usiniers, laborers, and manufacturers, and represents the sum paid the usinier for the weaving, inclusive of all incidental factory expenses save the winding and warping of the grege. The usinier pays the workman about 60 per cent. of the sum he receives, the rest being for factory expenses. As has been stated, the expense of weaving is quite the same to those owning factories and those working through the usinier, and the tariff is equally applicable to both classes. The tariff at present in use, based on the quantity of warp (in portées), the width of the goods, and whether woven in single or double piece is as follows per metre:

Quantity.	46 to 60 centimetres (woven double).	60 centimetres (woven single).	92 centimetres.
	Francs.	*Francs.*	*Francs.*
Up to 50 portées	0.10	0.15	
50 to 80 portées	.15	.20	
80 to 110 portées	.20	.25	
110 to 140 portées	.25	.30	
140 to 170 portées		.35	
170 to 200 portées		.40	
Up to 90 portées			0.25
90 to 120 portées			.30
120 to 150 portées			.35
150 to 180 portées			.40

The substantial correctness of this tariff will appear from the following table, in which the experts' schedule prices are compared with the manufacturer's (Chevillard's) own statement of the cost of weaving:

Quality.	Width.	Invoice price, per metre.	Price of weaving, per metre.	
			Manufacturer's.	Experts'.
	Centim's.	*Francs.*	*Francs.*	*Francs.*
No. 87	48	1.30	0.14	0.15
No. 74	48	1.70	.17	.10
No. 119	60	1.22	.14	.15
No. 107	60	1.52	.19	.20
No. 109	60	1.60	.11	.20
No. 212	60	2.10	.24	.25
No. 122	60	2.90	.28	.30

Dyeing.—The cost of dyeing, as set forth in a preceding portion of this report, is taken as the standard by the experts. Until 3 weeks ago the discount of 20 per cent. allowed on dyeing was not taken into consideration, but at present net figures are used.

Finishing.—The cost of finishing is taken at 5 centimes per metre for the narrow widths (45 to 60 centimetres) and at 8 centimes per metre for the 92-centimetre widths.

The correctness of these figures may be judged from the following tabulation of the cost of finishing, as stated by the various manufacturers:

Name of firm.	46 to 48 centimetres.	56 to 60 centimetres.	92 centimetres.
	Centimes.	*Centimes.*	*Centimes.*
Bardon, Ritton & Mayen	5	5	8
Bompiat & Favre	4	5	8
E. Chevillard	4.5	5.5	8
Gindre & Co.	5	5	8
A. Giraud & Co.	....	5.1	8.5
J. & P. Michel & Co	5	5	8
L. Permezel & Co.	3.5	3.5 to 4	7

General expenses.—A uniform sum of 5 per cent. of the net amount of raw material and labor is entered for general expenses. As has been stated, this does not refer to factory expenses, they being included with the weaving and the winding and warping. The various elements of the cost of production are then added together, the sum being the net cost of production. As these goods are always invoiced with 16 and 2 per cent. discount, this discount is added so as to give the cost of production, discounts included.

It being usually impracticable to examine all the different qualities embraced in the same shipment, several qualities representing the largest value are selected, and the cost of production of the entire shipment is estimated on the average result of the qualities analyzed in detail. As has already been stated, during the course of the present investigation it has been found expedient to lower several standards employed by the experts, resulting in a lowering of their estimates by from 2 to 3 per cent.

In conclusion, I would say that, while slight errors are always possible, I am satisfied that the estimates on piece-dyed goods now made by our silk experts are as nearly correct as it is possible for such calculations to be.

EXPERTS' AND MANUFACTURERS' STATEMENTS OF COST.

Having detailed the manner in which our silk experts proceed to establish the cost of production, the next inquiry that naturally presents itself is, how do the experts' calculations compare with the statements of cost of production made by the manufacturers in compliance with the act of June 10, 1890, and how can the difference between these two estimates be accounted for?

There is much difficulty in establishing fixed rules concerning the cost of production, but I am assured by various manufacturers that there can be no greater difference in the cost of the same article to the different manufacturers under consideration than 3 or 4 per cent. in the extreme. In discussing in detail the statements of the various manufacturers I have taken as the basis what has been said under the heading, "elements of cost of production," and compared it with manufacturers' figures.

Bardon, Ritton & Mayen.—The following table shows how the invoice prices of this house correspond with the experts' estimates of cost of production:

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
47 centimetres	1.60	1.66
Do	1.90	1.87
59 centimeters	.82	.84
Do	1.68	1.65
Do	2.35	2.23
92 centimetres	1.44	1.46
Do	2.20	2.19
Do	2.75	2.75
Do	3.25	3.20

The invoice value averages seven-tenths of 1 per cent. above the cost of production, and, as it ostensibly includes 8 per cent. profit, there is a difference of 7.3 per cent. between experts' and manufacturers' calculations. This is caused by the manufacturers entering 2 francs per kilometre as the price of dyeing in colors, instead of 2.20 francs; by stating the winding and warping at 2 francs, instead of 3.50 francs; by putting the cost of weaving at figures realized only in exceptional cases, and by allowing but 4 per cent. for general expenses.

Bompiat & Favre.—The invoice prices of this house average 2.2 per cent. below the cost of production, as will be seen by examining the following table:

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
46 centimetres	0.80	0.82
Do	.90	.93
48 centimetres	.95	.95
Do	1.55	1.67
60 centimetres	.90	.98
Do	1.05	1.09
Do	1.45	1.42
92 centimetres	1.60	1.54
Do	1.85	1.92
Do	2.35	2.40

The difference in estimates of 10.2 per cent. (8 per cent. profit and 2.2 per cent. under cost of production) is found as follows: Winding and warping of grege are not accounted for, being ostensibly included in the weaving, whereas the figures for the latter are quite too low for weaving alone; dyeing in colors is put at 2 francs per kilometre, instead of 2.20 francs net; finishing 48-centimetre widths at 4 centimes per metre, instead of 5 centimes; general expenses at 2 per cent., instead of 5 per cent.

Alexander Giraud & Co.—Invoice prices average 5 per cent. below the cost of production, as shown by the following table:

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
60 centimetres	0.95	1.02
Do	1.05	1.13
Do	1.60	1.67
Do	2.05	2.16
92 centimetres	2.20	2.27
Do	2.00	2.26
Do	2.35	2.48
Do	2.55	2.60
Do	2.75	2.80
Do	3.00	3.14

The difference of 13 per cent. in the estimates is easily accounted for—only 1 franc per kilogramme is entered for winding and warping, for weaving the mere wages paid the workmen are stated, factory expenses are wholly disregarded, and general expenses put at 3 per cent. Mr. Leon Giraud, in explanation, says:

> We inherited the business, our factory and store cost us nothing; hence we do not reckon expenses at much.

J. & P. Michel & Co.—This house manufactures its own goods and invoices at the cost of production.

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
46 centimetres	0.93	0.94
Do	.98	1.00
Do	1.10	1.08
Do	1.18	1.20
Do	1.23	1.24
Do	1.40	1.45
Do	1.60	1.63
Do	1.80	1.80
59 centimetres	.90	.91
Do	.95	.98
Do	1.22	1.24
Do	2.15	2.20
92 centimetres	2.20	2.15
Do	2.50	2.45
Do	2.80	2.75
Do	3.00	2.92

The only difference in the estimate is the 8 per cent. profit ostensibly included in Michel's figures. Nearly all the items of cost are satisfactorily stated by this house—winding and warping are put at 3.50 to 3.85 francs per kilogramme, 5 per cent. general expenses are allowed, quantity and quality of raw material are quite correctly stated. For weaving, however, only the price paid the workman is entered, without regard to factory expenses; it is this item that causes the difference.

E. Chevillard.—Invoice prices average 2.1 per cent. below experts' estimate of cost of production, as shown by the following table:

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
48 centimetres	1.57	1.54
Do	1.70	1.70
Do	2.05	2.12
60 centimetres	1.22	1.24
Do	1.30	1.28
Do	1.52	1.45
Do	1.60	1.54
Do	2.10	2.36
92 centimetres	2.75	2.80
Do	3.45	3.58

Here again there is a difference of 10.1 per cent. in the two valuations. A slight difference is found in nearly all the items.

At this writing Chevillard has just lowered his prices 3 to 5 per cent., as he says that he has purchased his silk at lower rates.

Gindre & Co.—Invoice prices average 7.9 per cent. below cost of production, the difference between experts' and manufacturers' calculations being 15.9 per cent.

Width of goods.	Invoice price.	Experts' estimate of cost.
	Francs.	*Francs.*
47 centimetres	0.77	0.81
Do	1.15	1.30
8 centimetres	1.40	1.40
Do	1.60	1.71
Do	1.70	1.81
60 centimetres	1.05	1.22
Do	1.25	1.29
92 centimetres	2.25	2.35
Do	2.75	3.05

MARKET VALUE AND SUMMARY.

Though it is not properly a part of my inquiry, I will say a few words concerning the "market value." This term may be taken as meaning the price at which the goods are offered for sale in large quantities and in the usual course of trade. Manufacturers do not work for nothing, but it is difficult to say what is the average profit on piece-dyed goods. However, I believe that the manufacturers under consideration would generally sell at wholesale for 4 per cent. above the experts' statement of cost. This statement of cost, it must be remembered, is inclusive of all expenses, and manufacturers could sell at that price without loss, but, of course, they would merely get back their invested capital without any profit.

In summing up the whole matter I would say that I have reached these conclusions: That the experts' estimate on piece-dyed goods are now entitled to full faith and fairly represent the cost of production of the goods; that if 4 per cent. be added to their statement of cost it will give as nearly as possible the market value for wholesale quantities.

CARL A. HANSMANN,
Consular Clerk.

UNITED STATES CONSULATE,
Lyons, November 27, 1890.

Railways in Syria.—To the various railway projects in Syria must be added a scheme for a steam tramway between the cities of Beirut and Damascus, traversing Mount Lebanon, the Beckâ (or Cœle-Syria), and Anti-Lebanon, a distance of 70 English miles.

The project, it would seem, has lately been examined by the council of ministers in Constantinople and sent back by that body to the ministry of public works, with a request to make certain modifications regarded by the council as necessary.—ERHARD BISSINGER, *Consul, Beirut, December 26, 1890.*

THE PORT AND TRADE OF SABANILLA.

REPORT BY CONSUL NICKEUS.

I have the honor to transmit to the Department, in answer to communications from parties in the United States who are contemplating the establishment of a line of steamers to ply between Galveston and the cities of this coast, a report in answer to the following questions:

(1) What is the best seaport in your (this) vicinity?

(2) What is the depth of water on the bar?

(3) If steamers have to lighter, what is the lighterage?

(4) What are the port duties?

(5) What articles of American goods are imported, and what is the duty on each article?

(6) What articles are exported, and what is the export duty, if any?

(7) Give names of responsible merchants of this city.

I answer the interrogatories in the order in which they are put as well as I can.

(1) Sabanilla Bay is by far the best seaport in this vicinity.

(2) The depth of water on the bar at the mouth of the Magdalena is from 10 to 20 feet, but is constantly shifting; therefore, exceedingly dangerous. Vessels have not crossed it for several years. All vessels are loaded and unloaded in Sabanilla Bay from and on lighters, and the merchandise is conveyed to Barranquilla by rail.

(3) Steamers use lighters at present, but a pier 3,300 feet long is being built and will be completed in 10 months, which will supersede this necessity of lighters. Lighters cost from $25 to $30 per day. As a rule, vessels bringing freight from the United States deliver the same at Port of Colombia, and the merchant is required to get the goods to Barranquilla from the ships at his own risk and expense. The railway company usually takes the goods from the ship and delivers them in the custom-house at Barranquilla for so much a ton, according to class of goods.

(4) The port duties are $1 on each bill of lading and about $10 for the clearing of each vessel.

(5) I give you the principal articles imported from the United States, with the duty thereon:

	Duty per kilogramme.
Flour	$0.05
Hog products	.20
Hardware	$0.01 to 1.00
Lumber:	
Planed and cabinet	.01
Cut, squared, and boards not planed	Free.
Wood manufactures	.40
Beer	.05

These rates of duty are given in Colombian money, which is worth about 50 cents American to the dollar.

(6) I append table showing kind, amount, and value of goods exported during the year 1889 and the places to which said goods were shipped.

Table showing the amount and value of exports from the port of Sabanilla, per steamers, for the year ended December 31, 1889.

Articles.	London.	Liverpool.	Swansea.	Havre.	Paris.
Balsam ....packages...	29	....	....	55	20
Bark ....do.....	401	....	....	94	241
Bird skins ....do.....	2	....	....	....	1
Cocoa ....do.....	336	36	....	45	100
Coffee ....do.....	24,281	132	....	6,916	657
Cotton ....bales...	....	207	....	1,590	....
Cotton seed ....packages...	....	1,465	....	2,763	....
Dividivi ....do.....	....	4,259	....	2,284	....
Fustic ....logs...	....	7,520	....	2,803	....
Hides ....number...	2,002	65	....	704	100
Ivory nuts ....packages...	650	711	....	....	....
Mineral ....do.....	45	335	7,507	....	600
Plants ....do.....	873	....	....	....	....
Rubber ....do.....	1,024	....	....	193	68
Sarsaparilla ....do.....	14	....	....	....	....
Sundries ....do.....	142	1	....	131	253
Total ....do.....	29,808	14,731	7,507	17,578	2,040
Total weight ....kilogrammes...	1,727,180	663,160	450,420	1,170,500	120,110
Total value:					
Produce	$585,095	$37,314	$225,210	$243,049	$52,120
Treasure	2,755,871	....	....	....	969,550
Total	3,340,966	37,314	225,210	243,049	1,021,670

Articles.	Bremen.	Hamburg.	New York	Antilles.	Carthagena.
Balsam ....packages...	80	187	817	....	....
Bark ....do.....	....	....	709	....	....
Cigars ....do.....	1	1	....	16	30
Cocoa ....do.....	159	73	327	248	....
Coffee ....do.....	3,660	4,902	74,503	21	1,726
Dividivi ....do.....	....	1,785	....	20	....
Fustic ....logs...	....	3,956	2,360	....	....
Goatskins ....bales...	....	2	584	....	24
Hats ....packages...	....	....	....	240	....
Hides ....number...	1,012	2,432	196,588	273	6,393
Ivory nuts ....packages...	3,554	2,073	....	....	....
Mineral ....do.....	....	6,893	3,005	....	124
Plants ....do.....	....	8	172	....	....
Rubber ....do.....	....	75	1,283	....	83
Sarsaparilla ....do.....	....	....	26	....	....
Sleepers ....logs...	....	....	....	8,710	....
Sundries ....packages...	24	44	132	131	178
Tobacco ....do.....	23,148	1,109	123	914	735
Total ....do.....	36,638	23,534	280,629	10,573	9,298
Total weight ....kilogrammes...	2,114,690	1,189,300	6,988,300	977,810	248,800
Total value:					
Produce	$568,155	$369,238	$2,712,250	$191,415	$93,865
Treasure	1,285	13,231	198,610	2,972	4,404
Total	569,440	382,469	2,910,860	194,388	98,269

Table showing the amount and value of exports from the port of Sabanilla, etc.—Continued.

Articles.	Colon.	Spain.	Total.		
			Number of packages.	Weight.	Value
				Kilos.	
Balsam.....packages...	....	....	1,188	71,280	$71,280
Bark.....do.....	....	....	1,505	90,300	75,250
Bird skins.....do.....	....	....	3	150	1,500
Cigars.....do.....	....	....	48	2,400	7,200
Cocoa.....do.....	....	....	1,324	79,440	33,100
Coffee.....do.....	142	138	117,088	7,025,280	2,341,760
Cotton.....bales...	....	....	1,797	359,400	89,850
Cotton seed.....packages...	....	....	4,228	295,960	4,228
Dividivi.....do.....	....	....	8,348	417,400	8,348
Fustic.....logs...	....	....	16,639	499,170	8,320
Goatskins.....bales...	10	....	560	33,600	11,200
Hats.....packages...	....	....	240	14,400	144,000
Hides.....number...	....	....	209,569	2,095,690	1,047,845
Ivory nuts.....packages...	....	....	6,097	487,760	34,075
Mineral.....do.....	....	....	18,514	1,110,840	555,420
Plants.....do.....	....	....	1,053	52,650	31,590
Rubber.....do.....	....	....	2,731	273,100	68,275
Sarsaparilla.....do.....	....	....	40	2,400	1,200
Sleepers.....logs...	4,378	....	13,088	1,308,800	26,176
Sundries.....packages...	771	59	1,866	111,960	18,660
Tobacco.....do.....	178	....	30,147	1,808,820	522,940
Total.....do.....	5,479	197	436,073	....	....
Total weight.....kilogrammes...	592,140	11,820	....	16,164,300	....
Total value:					
Produce.....	$22,066	$5,350	....	....	5,103,127
Treasure.....	78,544	....	....	....	4,024,468
Total.....	100,610	5,350	....	....	9,127,595

Table showing exports for 17 years.

Year.	Number of packages.	Amount of wood.	Weight of packages and wood.	Value.		
				Produce.	Treasure.	Total.
		Tons.	*Kilos.*			
1873.....	266,289	731	14,198,560	$4,935,340	$2,781,397	$7,716,737
1874.....	296,399	567	16,255,136	5,323,699	3,441,087	8,764,786
1875.....	313,302	1,369	16,738,480	5,144,910	2,937,130	9,082,040
1876.....	215,937	1,225	11,169,790	3,091,614	3,893,626	6,885,240
1877.....	230,509	572	11,229,390	3,672,100	3,128,045	6,800,145
1878.....	328,928	845	14,398,950	5,084,405	3,839,766	8,924,171
1879.....	337,764	860	15,258,380	6,077,317	3,272,168	9,349,485
1880.....	390,360	800	14,922,550	6,309,287	2,842,931	9,152,218
1881.....	423,342	1,085	15,862,550	9,055,669	3,343,940	12,399,609
1882.....	412,520	1,284	15,624,600	8,257,402	3,137,653	11,395,055
1883.....	550,652	5,838	20,199,750	6,999,955	3,951,126	10,951,081
1884.....	421,886	887	13,856,220	6,194,092	4,352,276	10,546,368
1885.....	151,071	59	5,029,580	1,593,235	2,214,616	3,807,851
1886.....	407,759	664	13,438,460	4,526,354	3,264,594	7,790,948
1887.....	441,184	3,140	14,985,240	4,137,711	3,606,474	7,744,185
1888.....	505,733	4,423	18,179,860	4,749,644	4,521,521	9,271,165
1889.....	432,973	1,808	16,164,300	5,103,127	4,024,468	9,127,595

I am quite sure that trade both in imports and exports has varied but little in the last 3 years. In the years 1881, 1882, 1883, and 1884, owing to the demand for beef cattle on the Isthmus of Panama during the construction of the Panama Canal, the exports were much larger, as appears from the table mentioned; otherwise there has been little difference in the exportations from this consular district since 1878. Nine-tenths of all the imports and exports of the Republic of Colombia pass through Barranquilla.

During the last 12 months about 78,000 packages were delivered at this port by the Atlas steamers, each package weighing an average of 125 pounds. This same line of steamers took from this port $2,425,590.41 worth of goods (value in gold) to New York; of this amount other vessels may have carried out, perhaps, $100,000 worth.

Their enterprise is looked forward to with much interest by the merchants of this city with whom I have spoken. They believe, as I do, that another line of steamers between here and the southern ports of the United States would be of mutual benefit to the people of both sections, and they promise to aid the enterprise by their patronage.

JOHNSON NICKEUS,
Consul.

UNITED STATES CONSULATE,
Baranquilla, January 1, 1891.

RESOURCES OF THE AMAZON VALLEY.

REPORT BY CONSUL KERBEY, OF PARA.

The Amazonian valley extends generally due westward for 2,000 miles, between the equator and 5° south latitude and between 30° and 75° west longitude.

Figuratively, South America resembles, in outline on the map, a shoulder of beef, of which Patagonia may be likened to the shank, while we at Para are in the tenderloin. A horizontal line drawn along the eastern coast of North America would pass to the west coast of South America. The most easterly point of Brazil, New Pernambuco, may be said to be in the middle of the Atlantic. The coast line of north Brazil extends almost east and west for 1,000 miles, facing the United States, while the old-gold colored waters of the Amazon, curving toward the Gulf Stream, mark a path in the ocean for hundreds of miles, inviting commerce to come hither from our country. North Brazil is commercially the nearest or closest to the United States. This portion of the new Republic is in almost every respect entirely distinct from the southern States of Brazil.

There is no communication from the capital at Rio de Janeiro to this part of the Government except by the 2,000 or 3,000 miles of coast navigation, to which may be added another 1,000 miles of river transportation to reach the State of Amazonas.

Politically, these States have recently emphasized their satisfaction with the Republic and their adhesion to the General Government at Rio de Janeiro, but it is being generally discussed, or hoped, among some of the foreign people resident here that the time is not far distant when there will be a separation. Undoubtedly the wish is father to the thought. In this case all true Brazilians and the friends of Brazil sincerely hope that the "secession in thought" may never materalize.

Certain it is that the Amazon valley, by its naturally rich and abundant resources, contributes most to the General Government. It is estimated that the export duties on crude rubber will aggregate the revenue derived from both coffee and sugar. Rubber is worth 61 cents a pound, while coffee and sugar are less than one-sixth of this.

As indicated in reports on trade and transportation and rubber, there is as yet practically nothing produced in the valley. Everything necessary to support civilized life is imported, generally from Europe.

The General Government gets all the revenue from imports. The people here are, therefore, in a manner dependent upon the southern provinces for their *farinha*, or mandioca, the flour of the country.

India rubber is at present the one great industry and resource of the Amazon.

The only reason why there is almost no agriculture in this valley is because rubber-gathering, although more dangerous to health, pays immense returns for the labor invested. This keeps a large part of the native population at the margins of the rivers and in the swamps, where the malaria and fevers cut them down rapidly. It is said there was more agriculture in this valley 25 years ago than now. Villages once prosperous are now falling into decay, the fast-growing foliage almost covering them from sight. The enterprising people have gone to the cities or to the rubber swamps.

Notwithstanding these obstacles, the agricultural possibilities of the valley are great, almost beyond comprehension. The soil is fertile, and there are never any droughts or frosts or grasshopper plagues. The products are mostly tropical.

The almost exclusive breadstuffs of the temperate zones will not grow here. Wheat, barley, oats, and rye grow rank as far as straw is concerned, but produce no kernels of grain. Potatoes grow well of a fair quality, but the yield is exceedingly small. Corn yields abundantly, but it is used for food only when other food fails, because it is too heating to the blood. A hunk of johnnycake as big as one's fist will produce a nettle rash all over the body within 24 hours after eating, though foreign corn eaten here does not have any such effect. Consequently, rice and mandioca are the only breadstuffs that will ever be raised in the valley. Rice grows spontaneously and mandioca with almost no cultivation, except cutting and burning off the brush and sticking the joints of the stems into the ground. Six or 8 months later the roots are pulled up and made into meal (*farinha*). As it has not the phosphatic elements that make wheat the prime breadstuff of the world, the Amazon valley will always be a gradually increasing market for wheat flour, in spite of the richness of its soil.

Sugar cane grows luxuriantly. In many places it is only necessary to burn off the grass and reeds and scatter the pieces of sugar-cane stalks over the surface of the ground. They will sprout and take root without being planted in the ground and will yield two crops a year for 12 years without cultivation and without planting. That, of course, is on low land. On high land the cane "runs out" in 4 or 5 years and begins to produce an inferior quality of sugar. The cane yield is then burned over and a new crop planted. But the price of labor is so high since the rubber fever began that it does not pay to make sugar here. Nearly all the sugar cane is turned into rum, but, even so, it supplies only a small part of the rum consumed.

Bananas and oranges and a great variety of other edible fruits grow in greatest abundance and with very little labor.

Coffee grows luxuriantly, but is said to be of quality inferior to that produced further south.

The only agricultural product exported from the Amazon valley is cacao, from the seed of which chocolate is manufactured by roasting and grinding. Its culture is very remunerative, and it gives quick returns for outlay. The trees begin to bear in paying quantities at the age of 3 years and are still vigorous and productive at the age of 100 years. The labor of planting is slight, and the after care is simply to keep parasitic plants from the branches and gather the fruit. The foliage forms so dense a shade that no form of vegetation will spring up in a cacao orchard after the trees are 5 or 6 years old. The only weeds are those which grow on top of the trees, and these are easily destroyed. The present cacao orchards are all, or nearly all, on low land. It has not yet been proved that cacao would yield profitably on high land. When there is lack of rain at the fruiting season or the floods fail to reach high enough to fill the soil with water, the crop is a failure. Irrigation, however, would be extremely easy on the lands where cacao is raised. This crop will always be one of the most valuable for the Amazon farmer, who can have his cacao orchard on the elevated river front and his cattle and rubber-tree plantations on the lower flood plains between there and the distant hills.

Cotton grows well and yields a fair quality of fiber; but as yet it has not been planted to any great extent, especially since rubber-gathering began to call away so large a part of the population. The American colony at Santarem, however, is planting a crop of cotton for the coming season and bringing from the United States the machinery for working it up into white cotton cloth. The experiment is being tried, not without some misgivings and with a good outlay of American pluck, that has already braved unnumbered difficulties in many new and untried industries, only to find that most of them had some drawback that made them impracticable. I hope to visit this colony soon and be able to report more fully on their progress.

The lowlands, where the yearly floods prevent the growth of forests, are magnificent grazing lands; but the small farmer, with 50 or 100 cattle, would be at a great disadvantage. His house would be on the narrow, elevated margin of the river channel out of the reach of the annual flood. His pasture land is back of his house, on a lower level, and under water from 1 to 3 months in the year. He must generally have some higher land somewhere, perhaps 10 miles away across the flats (*varzea*) at the bluffs that border the river plain, for the high ground on which his house stands is forest and affords no pasture. He must also have money enough to hire a steam tug and a barge to take his cattle to this distant land if the flood rises suddenly and unexpectedly, as it often does.

During the present season the floods have been rather higher than usual, and, from the lack of means for transportating cattle that were unexpectedly imprisoned on the narrow ramparts between the river channels and the flood plains, it is estimated that over 30,000 head of neat cattle and 5,000 horses and mules have died of starvation and pestilence this year on the lower Amazon above the delta.

JOSEPH O. KERBEY,
Consul.

UNITED STATES CONSULATE,
Para, December 11, 1890.

LABOR LEGISLATION IN EUROPE.

REPORT BY CONSUL GOTTSCHALK, OF STUTTGART.

On January, 1, 1891, a new law relating to laborers and their protection in case of their inability to work by reason of sickness or old age took effect in the German Empire after having been adopted in the Reichstag by a vote of 185 to 165 on May 25, 1889, through the influence of Bismarck. The principal features of this law, with a short review of the legislation of other states in that direction, may be of interest to the American public, where like questions are constantly discussed.

The new law of the German Empire provides that every person, male or female, 16 years of age or over, and occupying the position of laborer, servant, or clerk, whose wages or salary amounts to less than 2,000 marks* ($476) per year must have himself or herself insured. The premium for this insurance is paid in equal parts by the employer and employé, and the Government itself contributes to each policy the sum of 50 marks annually. The insurance companies are State institutions under the control of, and operated by, the State, and the post-office employés, as well as policemen and other subordinates, attend to the serving of notices and collection of dues. The premiums to be paid are in proportion to the wages received and are divided into four classes, as follows: (1) Those earning 350 marks per year or less pay a premium per week of 14 pfennigs (3 cents); (2) those earning from

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*1 mark = 23.8 cents.

350 to 550 marks per year, 20 pfennigs (4.7 cents); (3) those earning from 550 to 850 marks per year, 24 pfennigs (5.7 cents); (4) those earning from 850 to 2,000 marks per year, 30 pfennigs (7 cents).

Of these above weekly amounts the employer pays one-half, but proof of sickness or military services exempts the employé from his contributions.

In case of inability to work (except from accidents or mishaps, for which special provision is made under former laws by the accident insurance, which is also compulsory), which inability is determined by the fact that the insured is by disease unable to earn one-third of the amount of his former wages, the benefits are as follows: First class receives annually 114.70 marks; second class, 124.10 marks; third class, 131.15 marks; fourth class, 140.55 marks. But he may receive more if he shows that for a long time his dues have regularly been paid. But there is this further condition, that before the insured receives anything he must have paid his contributions for at least 47 weeks and was employed for 5 years before his disability occurred, but such employment need not have been continuous or uninterrupted; it suffices if he worked 235 weeks during that period.

The age insurance provides that every person who attains the age of 70 years receives a pension from the State which amounts annually, in the first class, to 106.40 marks; in the second class, to 134.60 marks; in the third class, to 162.80 marks; in the fourth class, to 191 marks.

This law goes into immediate effect; that means the pension will accrue to every one who reaches 70 years after January 1, 1891, whether able to work or not, provided that he worked for 3 years prior to that date, that is to say, at least 141 weeks since January 1, 1888. But, if he was sick during that time or his employer had no work for him (but not in excess of 4 months), the time so lost is counted as if he had worked. And the law also applies to persons who attained the age of 70 years prior to January 1, 1891. All contributions cease after that age, and, in case any employer who was insured and paid his contributions for at least 5 years dies before reaching the age of 70, then one-half of all paid by him will be returned to his wife and children. Every female may, in case she marries, also demand the return of one-half of her premiums. It is calculated that 11,000,000 persons will be subject to this compulsory insurance law, and the amount required for its operation will be about 220,000,000 marks, of which the employés, employers, and the taxpayers (which means the State) pay one-third each. The payments are made in this manner. Each employé is furnished with a book in which stamps designating the amount paid are to be gummed in. These stamps are sold by the Government and are to be purchased by the employer, who may deduct one-half from the wages of the employé. Further provisions are made for cases when an employé becomes his own master or employer, and there are also penalties for violation of the law.

This law is auxiliary and intimately connected with the two other laws in force for some time relating to the compulsory insurance against sickness and accidents. As to the first, every laborer employed in mines, factories, railroads or shipping wharfs, building trade, machinery, or common carriers must be insured. The amount to be paid for such insurance is a sum not exceeding 2 per cent. of the daily wages, and must be paid in the proportion of two-thirds by the laborer and one-third by the employer.

In regard to the insurance against accidents, the same is confined principally to factories, and here the employer must pay the entire premium. In connection therewith the law regulating the liability of employers for accidents to their employés provides that the party injured may recover damages, and, if he was an employé of a steam, street, or railway company, the very fact that the accident occurred is prima facie evidence that the railroad is to blame, which, however, may prove that the cause of the accident was the own fault of the party injured or was caused by some superior force which could not be foreseen. In all other cases against factories and like institutions the burden of establishing negligence is on the party seeking to recover. But by the law regulating compulsory insurance against accidents it is further provided that employés subject to such laws can only claim damages if they establish that the employer intentionally inflicted the injuries complained of. In addition to all this there is a law which establishes and regulates the support of the poor by the town or township of which the party has been a resident for 2 years past. In case such party becomes impoverished at a place other than his home, he may be sent to his place of residence; but laborers or servants, in case of sickness, must be supported, if necessary, for 6 weeks by the community where the misfortune befel him or her.

Germany seems to be far ahead of all other states so far as legislation for the protection of laborers is concerned, but in some respects Switzerland is more liberal in that respect.

The law in Switzerland makes the happening of an accident prima facie evidence, and it only releases the employer from liability in case he may show that the accident was caused by superior force or criminal act of a third person or by the own fault of the deceased or injured party. And, in cases where any business detrimental to health is being carried on, the owner is also liable in case the employé contracts any disease caused by such business, as, for instance, match factories, white lead and mirror factories, wall paper factories (where arsenic is used). The law there further requires a record to be kept by the owner of all accidents, cases of sickness, or deaths apparently caused by the business in which the laborer is engaged, and embraces all factories, railroads, steamboats, telegraphs, telephones, buildings, quarries, mines, etc.

Another feature, which is also found as yet only in Austria, is the law which fixes the maximum time during which labor can be demanded. That time is 11 hours per day, and on Saturdays or days immediately preceding holidays it is 10 hours. It applies to all persons over 14 years of age, and prohibits work by all under that age, and prohibits night work for females and for boys under 18 years. There are tribunals which, under exceptional or pressing circumstances, may extend the time of labor to a limited degree, but that is seldom done. All female married laborers must have a rest of 1½ hours at noon. There was at first great opposition to this law; but employers and laborers have acquiesced, and the former class have discovered that the disadvantageous results expected did not follow the enactment of this law. There is no proposition to change the law, only to extend it so as to reduce the working-day to 10 hours.

The law in Switzerland is especially significant, as that country has many and important industries and manufactories, principally for the export trade. Its products—clocks, watches, machinery, yarn, and silk embroidery—come into competition with the products of other states. The country is divided into three districts; for each one an inspector is appointed, with an assistant, whose duty is to see that the law is carried out. They must visit each factory at least once every 2 years. There are in Switzerland twenty-three hundred and twenty-two factories, employing 1,160,000 laborers.

Another important feature is that the rules of each factory must be submitted for approval to the proper tribunal and must first be brought to the attention of the laborers, so that they may have an opportunity to express their opinion. This is done by posting up notices that such rules are in the office open to inspection, and that any objection should, within a specified time, be filed with the owner or with the tribunal. Mr. König, who is privy councilor in the department of trade in Berlin, has lately—probably at the instigation of his Government—made an investigation of the operation of this law, and the result of said observation has been published and is very favorable.

The Swiss law seems to be regarded as a precedent, and the satisfaction which it gives encourages the laboring classes of Germany to have it also enacted in their own country, and with considerable hope of success. If they succeed, Germany will undoubtedly be the foremost of all governments in reference to its legislation for the protection of labor, for no other country has as yet adopted the system of insurance against sickness, accidents, disability, and old age to such an extent as Germany. Naturally, the results will be watched with great interest.

LOUIS GOTTSCHALK,
Consul.

UNITED STATES CONSULATE,
Stuttgart, February 3, 1891.

Corset steels.—Two gentlemen of Belleville wish to learn the address of some American manufacturer of the steel used in making the steels for corsets. There is an establishment in Gananoque, Ontario, which manufactures corset steels. These gentlemen desire to ascertain what American steel prepared for making corset steels will cost them when it is laid down in Belleville.—S. H. DENEEN, *Consul, Belleville, March 2, 1891.*

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC

No. 127.—APRIL, 1891.

AMERICAN FLOUR TRADE IN ENGLAND.

REPORT BY CONSUL-GENERAL NEW, OF LONDON.

I have the honor to inclose a letter from the London Flour Trade Association, bringing to my attention what seems to be a most serious state of affairs in the importation of American flour into this country, a business which in late years has attained such large dimensions.

I am well acquainted with the high character of the merchants composing the London Flour Trade Association, and their statement of the causes which are hampering the trade, *i. e.*, the unsatisfactory terms of the through bill of lading and the delays in transit, is so clearly put that there is no necessity for my enlarging upon the matter.

JNO. C. NEW,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, February 10, 1891.

[Inclosure in Consul-General New's report.]

LONDON FLOUR TRADE ASSOCIATION,
CORN EXCHANGE, 41 SEETHING LANE,
London, E. C., February 5, 1891.

To the Consul-General of the United States of America.

SIR: I am desired by the executive committee of the London Flour Trade Association (which includes nearly all the London importers of, and the wholesale dealers in, American flour) to place before you certain grievances under which this trade is suffering, in the hope that you may see your way to report the matter to your Government.

As you are probably aware, the exports of flour from the United States are mostly direct from the mills to the United Kingdom and already reach a large total, those for 1890 being equal to 12,025,800 cwts., out of a total export of wheat and flour of 29,226,863 cwts., which quantity might be largely increased by a better system of transport. At present all flour sent here from an inland station is sent on what is called a through bill of lading (one of which I now inclose), the terms of which are fixed by a combination of all the principal United States railways, so that, although it is supposed to be a free contract between the miller and the transportation company, it is in reality no such thing, as the miller, refusing to forward his flour on the one-sided document offered him, simply has to keep it or sell it in the United States. If you will be good enough to look at the document above referred to, you will observe that the transportation companies contract themselves out of nearly every liability except that of receiving the freight; but among the many drawbacks and risks taken by the acceptor of this bill of lading that of delay in transit stands out preëminently as the most serious. As you will notice, the transportation companies do not undertake to deliver the goods in any particular time, and, in fact, do take any time from 4 to 16 weeks to get the flour to its destination; and it has been found by careful investigation that the delays are, in a large majority of cases, caused by the railway companies, they (having made no contract with a time limit) caring nothing for the delays which take place.

The terrible irregularity of this service has reached such a pitch that the trade with this country is most seriously hampered, no buyer being able to tell within many weeks when he is likely to receive his purchase; and we wish to impress upon you the fact that such a state of things resolves itself into a serious tax on the export of flour from your country, inasmuch as a large discount in price has to be allowed the buyer when taking the risks above referred to. The committee wish you to understand that, before asking for your valuable assistance in this matter, they have, individually and collectively, done all in their power to obtain a fair document, naming at least a reasonable time limit, but without the least effect, the combination interested in the present document being far too strong. May I ask you, therefore, to embody the above facts in any report you may be sending your Government on the trade of this country, drawing particular attention to the effect they have on the exports of flour; and I would also ask you to be good enough to receive a small deputation from our association, with a view to explaining any matters in the above statement which may not be clear to you. A deputation will be pleased to wait upon you at any time that may be convenient to you.

I am, etc.,

PERCY E. PHILLIPS,
Honorary Secretary.

Bill of Lading.

THE WESTERN TRANSIT COMPANY, THROUGH FREIGHT LINE VIA THE LAKES, THE NEW YORK CENTRAL AND HUDSON RIVER RAILROAD AND CONNECTIONS, AND THE FURNESS LINE OF BRITISH STEAMSHIPS.

S. D. Caldwell, general manager, Buffalo, N. Y.; William James, general foreign freight agent, New York; Edward Walley, foreign freight agent, Boston, Mass.; Hugh MacMillan, agent, Chicago, Ill.; J. C. McClintock, agent, Milwaukee, Wis.; Charles Wilks, agent, Minneapolis, Minn.; H. S. Bolcom, agent, Winona, Minn.

Through bill of lading No. 86. Contract No.—Talbot, 812; Walley, 532.

From Minneapolis, Minn., to London, England.

Shipped in apparent good order by Columbia Mill Company, the following property, marked or numbered as below (weight, measure, gauge, quality, condition, quantity, brand, contents, and value unknown), weight subject to correction:

Marks and numbers.—Trojan 91–92–92. Mil., 36250; C. & N. W., 32448; C. S. L., 4468—200 sacks each.

Merchandise.—Six hundred sacks of flour.

Through rate, $30.62 (gold) per 100 pounds; gross weight, 84,000 pounds.

Notify Pillman & Phillips.

The property covered by this bill of lading is subject to all the conditions expressed in the customary forms of bills of lading in use by said steamships or steamship company at time of shipment.

To be delivered in like good order and condition at the port of London, England (or so near thereto as ship may safely get, with liberty to call at any usual port of call), unto Columbia Mill Company, or his or their assigns, upon payment in cash of freight due thereon immediately on discharge of the property at the rate of $30.62, American gold, per 100 pounds gross weight, and advanced charges, without any allowance for credit or discount, £1 being considered equal to $4.80, American gold (general average payable according to York-Antwerp rules), under the following terms and conditions, viz:

(1) That said the Western Transit Company and its connections which receive said property shall not be liable for breakage of packages of eggs, or rust of iron and of iron articles, or for loss or damage by wet, dirt, fire, or loss of weight, or for condition of baling on hay, hemp, or cotton; nor for loss or damage of any kind on any article whose bulk requires it to be carried on open cars; nor for damage to perishable property of any kind occasioned by delays from any cause or changes of weather; nor for loss or damage on any article or property whatever by fire or other casualty while in transit or while in depots or places of transshipment, or at depots or landings at all points of delivery; nor for loss or damage by fire, collision, or the dangers of navigation while on seas, rivers, lakes, or canals. All goods or property under this bill of lading will be subject, at its owner's cost, to necessary cooperage or baling, and is to be transported to the depots of the companies or landings of the steamboats or forwarding lines at the points receipted to for delivery.

(2) It is further agreed that said the Western Transit Company and its connections shall not be held accountable for any damage or deficiency in packages after the same shall have been receipted for in good order by consignees or their agents at or by the next carrier beyond the point to which this bill of lading contracts. Consignees are to pay the freight and charges upon the goods or merchandise in lots or parts of lots, as they may be delivered to them.

(3) It is further stipulated and agreed that, in case of any loss, detriment, or damage done to, or sustained by, any of the property herein receipted for during such transportation, whereby any legal liability or responsibility shall or may be incurred, that company alone shall be held answerable therefor in whose actual custody the same may be at the time of the happening of such loss, detriment, or damage, and the carrier so liable shall have full benefit of any insurance that may have been effected upon or on account of said goods.

(4) And it is further agreed that the carrier shall not be liable for any discrepancy between the contents of the package and the description of the same in the bills of lading.

(5) And it is further agreed that from and after the arrival of said goods at the port of East Boston, and while said goods remain on the wharf or wharfs waiting for further conveyance, the Western Transit Company shall not, nor shall any of its connections, inland or ocean, be liable for delay, nor shall they or any of them be liable in respect of said goods, otherwise than as warehousemen. It is also agreed that, in case the whole or any part of the property specified herein be prevented from any cause from going on the first steamer of the line above stated leaving after the arrival of such property at said port, the Western Transit Company is at liberty to forward the same by succeeding steamers of said line, or, if deemed necessary, in the steamers of any other line.

(6) And it is further agreed that this contract, on the part of the Western Transit Company, is accomplished, and the liability of the Western Transit Company hereunder terminates, on the delivery of the goods or property to the steamship or steamship line, her or its agent, servants, or on the steamship pier at port of East Boston, when the responsibility of the steamship or steamship line begins, and not before.

It is mutually agreed that, in respect to the transportation from the port of East Boston to port for destination, the ship shall have liberty to sail without pilots, to tow and assist vessels in distress, to deviate for the purpose of saving life or property; that the carrier shall have liberty to convey goods in lighters to and from the ship at the risk of the owners of the goods, and, in case the ship shall put into a port of refuge or be prevented from any cause from proceeding in the ordinary course of her voyage, to transship the goods to their destination by any other steamship.

It is also mutually agreed that the carrier shall not be liable for loss or damage occasioned by causes beyond his control, by the perils of the sea or other waters, by fire from any cause or wheresoever occurring, by barratry of the master or crew; by enemies, pirates, or robbers; by arrest and restraint of princes, rulers, or people, riots, strikes, or stoppage of labor; by explosion, bursting of boilers, breakage of shafts, or any latent defect in hull, machinery, or appurtenances; by collisions, standing, or other accidents of navigation of whatsoever kind (even when occasioned by negligence, default, or error in judgment of the pilot, master, mariners, or other servants of the shipowners, not resulting, however, in any case, from want of due diligence by the owners of the ship or any of them, or by the ship's husband or manager); nor for heating, decay, putrefaction, rust, sweat, change of character, drainage, leakage, breakage, or any loss or damage arising from the nature of the goods or of the insufficiency of packages; nor for land damage; nor for the obliteration, errors, insufficiency, or absence of marks, numbers, address, or description; nor for risk of craft, hulk, or transshipment; nor for any loss or damage caused by the prolongation of the voyage.

I.—It is also mutually agreed that the carrier shall not be liable for gold, silver, bullion, specie, documents, jewelry, pictures, embroideries, perfumeries, works of art, silks, furs, china, porcelain, watches, or clocks in any respect, or for goods of any description whatever above the value of $20 per cubic foot, and in no case is the carrier to be liable beyond $500 per package, unless bills of lading are signed therefor, with the value therein expressed, and a special agreement is made.

II.—Also, that shippers shall be liable for any loss or damage to ship or cargo caused by inflammable, explosive, or dangerous goods shipped without full disclosure of their nature, whether such shipper be principal or agent, and such goods may be thrown overboard or destroyed at any time without compensation.

III.—Also, that the carrier shall have a lien on the goods for all freights, primages, and charges, and also for fines or damages which the ship or cargo may incur or suffer by reason of the incorrect or insufficient marking, numbering, or addressing of packages or description of their contents.

IV.—Also, that, in case the ship shall be prevented from reaching her destination by quarantine, the carrier may discharge the goods into any depot or lazaretto, and such discharge shall be deemed a final delivery under this contract, and all the expenses thereby incurred on the goods shall be a lien thereon.

V.—Also, that the ship may commence discharge immediately on arrival and discharge continuously, the collector of the port being hereby authorized to grant a general order for discharge immediately on arrival, and upon discharge the goods shall be at the risk of the consignee, and, if not taken by him within such time as is provided by the regulations of the port of discharge, they may be stored by the carrier at the expense and risk of their owners, and the responsibility of the steamship or steamship line for merchandise to be carried at a through rate to a point beyond the port of discharge shall terminate on the delivery of the goods or property to the next carrier.

VI.—Also, that full freight is payable on damaged or unsound goods; but no freight is due on any increase in bulk or weight caused by the absorption of water during the voyage.

VII.—Also, that, if, on sale of goods at destination for freight and charges, the proceeds fail to cover said freight and charges, the carrier shall be entitled to recover the difference from the shipper.

VIII.—Also, in the event of claims for short delivery when the ship reaches her destination, the price shall be the market price at the port of destination on the day of the ship's entry at the custom-house, less all charges saved, except a lower value of the articles has been agreed upon with the shipper and such value noted hereon.

IX.—Also, freight payable on weight is to be paid on gross weight landed from ocean steamship, unless otherwise agreed.

X.—Also, goods destined for a continental port, in the event of the continental steamer being prevented by ice from reaching destined port, the master reserves the liberty of either landing cargo at nearest open port he can reach with safety or bringing it back to port of transshipment, in either case at consignee's risk and expense, but charging outward freight only; or, should the last steamer of the season have sailed for the above destined port, the goods may be sent to the port nearest to their destination with which there is direct communication, or may be warehoused at the intermediate port at the expense and risk of the owners of the goods.

XI.—Parcels for different consignees collected or made up in single packages addressed to one consignee to pay full freight on each parcel.

And finally, in accepting this bill of lading, the shipper, owner, and consignee of the goods and the holder of the bill of lading agree to be bound by all of its stipulations, exceptions, and conditions, whether written or printed, as fully as if they were all signed by such shipper, owner, consignee, or holder.

Attention of shippers is called to act of Congress of 1851: "Any person or persons shipping oil of vitriol, unslacked lime, inflammable matches, or gunpowder in a ship or vessel taking cargo for divers persons on freight without delivering at the time of shipment a note in writing, expressing the nature and character of such merchandise, to the master, mate, or officer or person in charge of the loading of the ship or vessel shall forfeit to the United States $1,000."

In witness whereof, the agent signing on behalf of the said the Western Transit Company, and of the said steamer or steamship company severally and not jointly, hath affirmed to two bills of lading, all of this tenor and date, one of which bills being accomplished, the others to stand void.

Dated in Minneapolis, Minn., this 25th day of August, 1890.

CHARLES WILES, Agent.

FRENCH SAVINGS BANKS.

REPORT BY CONSUL WILLIAMS, OF HAVRE.

I have the honor to inclose herewith translation of an important article on the condition of French savings banks, as taken from the last report of Minister Jules Roche to the President of France.

OSCAR F. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Havre, February 5, 1891.

SAVINGS BANKS.

[Inclosure in Consul Williams's report.—Translation.]

At the moment when the parliamentary commission instructed to prepare a new project of law on savings banks pursues actively its work, in order to deposit its report during the present session, it is interesting to examine the condition of these establishments as they existed a year ago, that is, December 31, 1889. It is, in fact, the last but one term during which the deposits were made in order to obtain a higher rate of interest than that allowed to-day.

When the figures for 1890 are known, we will compare them with the current year, and evidently we shall find matter for curious observations; but, as some months must elapse before then, let us examine rapidly those of 1889, as shown by the report addressed to the President of the Republic December 20 last (1890) by Mr. Jules Roche, minister of commerce, industry, and the colonies. According to this report the sum deposited in the ordinary savings banks for the year ended December 31, 1889, amounted to 2,683,595,803.64 francs ($516,070,346.63),* and is subdivided as follows:

Books.	Amount.	
	Francs.	
20 francs ($3.85) and under	15,072,903.64	$2,898,635.19
21 to 100 francs ($4.05 to $19.23)	50,161,575.88	9,616,156.90
101 to 200 francs ($19.42 to $38.58)	70,316,091.95	13,522,325.37
201 to 500 francs ($38.78 to $96.15)	238,632,087.61	45,890,786.07
501 to 1,000 francs ($96.35 to $192.30)	453,883,990.73	87,285,382.83
1,001 to 2,000 francs ($192.50 to $384.60)	1,016,976,183.35	195,572,342.95
2,000 francs ($384.60) and above:		
Liable to be reduced within 3 months	823,666,035.71	158,397,314.48
Exempt from reduction by law	14,856,934.77	2,857,102.84
Total	2,683,595,803.64	516,070,346.63

The minister remarks that the books of less than 200 francs ($38.58), although they contribute but a small part of the sum total of the deposits—135,500,000 of 2,500,000,000 francs ($26,067,417.46 of $516,070,346.63)—are nevertheless the most numerous, forming eleven-twentieths of the number of books (3,100,000 of 5,500,000), against one-twentieth of the amounts. We will add that, as far as we are concerned, these are the only ones that really merit attention; they represent, in fact, the workingmen's savings, who have not the means for making large investments and waiting until their capital becomes large enough to invest at larger interest. As regards the books which are higher—500 francs ($96.35)—we must admit that these fill us with sad reflections. There are in France persons, who possess together exactly 1,470,860,000 francs ($282,857,692.29), who can find no better way to invest their money than in the savings banks; there are 1,300,000 capitalists, some having 500 francs ($96.15); others, 1,000 francs ($192.30); in fact, others, 2,000 francs ($384.60), who have confidence only in the State, and prefer to be contented with 3½ per cent. interest rather than to become owner of any share or obligation whatsoever. Amongst all the values quoted they can not find a single title which seems to them a sufficient security. This is—whatever may be the cause of this strange suspicion—a most regretful symptom; in fact, one of two things: either the persons of whom we speak have to do with the local banks, whose counsels do not appear to them worthy of following, or their financial education leaves much to be desired, since they do not understand the advantage they would have in receiving 4½ and 5 per cent. income and in having values such as we could recommend to our readers, instead of 3½ per cent. which the savings bank gives.

Happily, we can state that the number of these large deposits has diminished during the year 1889.

The new deposits, from 500 francs to 2,000 francs ($96.15 to $384.60), from January 1 to December 31, 1889, amount only to a total of 425,000,000 francs, whereas the reimbursements asked by the depositors of this category amount to 432,000,000 francs, a difference of 7,000,000 francs.

It will be interesting to state at the end of the present term to what amount the deposits of that volume will reach. There is every reason to believe that under the influence of the rate of interest being lowered they will have sensibly diminished.

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*Reductions to United States currency are made on the basis of 5.20 francs to the dollar.

EXPORTS TO THE UNITED STATES FROM GERMANY.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

The statistics of declared exports to the United States during the year 1890 from the district of the consulate-general at Frankfort and from those of the several consulates under its supervision show the following comparison with the totals of the preceding year:

Consulates.	1889.	1890.	Increase.	Decrease.
Frankfort	$3,351,424.61	$3,864,569.88	$513,145.27	
Aix la Chapelle	1,884,571.72	1,993,408.08	108,836.36	
Barmen	5,575,146.05	7,519,771.48	1,944,625.43	
Crefeld	5,436,838.36	6,010,884.02	574,045.66	
Cologne	2,358,093.87	2,841,621.04	483,527.17	
Dusseldorf	1,613,377.12	1,382,984.20		$230,392.92
Mayence	1,848,640.88	2,306,752.44	458,111.56	
Mannheim	2,467,337.78	3,121,298.13	653,960.35	
Munich	1,027,605.84	1,230,919.10	203,313.26	
Nuremberg-Fürth	5,276,855.60	5,536,709.25	259,853.65	
Sonneberg	2,962,927.10	3,932,273.77	969,346.67	
Stuttgart	1,373,411.91	1,488,704.55	115,292.64	
Strasburg-Kehl	1,986,158.70	1,903,740.65		82,418.05
Total	37,162,389.54	43,133,636.59	*6,284,058.00	312,810.97

*Net increase, $5,971,247.05.

It will be seen that, with two exceptions, each consular district shows an important increase during the year just ended over the exports of 1889, and even surpasses the shipments of 1887, when the totals reached the sum of $42,785,689.42. These exceptions are at Dusseldorf and Kehl, respectively, where the decrease is due to a falling off in the exports of steel, caused by the fact that since the miners' strikes in 1888 the high price of coal in western Germany has raised the cost of steel manufacture to a point at which the German manufacturers find it difficult to hold their footing in the American market. The fluctuations in American imports from this country and their steady, nearly uniform growth during the period while American pork products have been denied admission to Germany will be apparent from the following table of exports from the Frankfort supervision during each of the past 10 years:

Year.	Value.	Year.	Value.
1881	$26,281,704.80	1886	$36,635,517.23
1882	32,082,382.35	1887	42,785,689.44
1883	28,887,249.89	1888	38,764,751.25
1884	30,471,829.26	1889	37,162,389.54
1885	27,298,808.74	1890	43,133,636.59

The exports of the last 12 months exceeded, therefore, those of any preceding year, and show an increase during 10 years of $16,851.79, or more than 64 per cent.

The increase of 1890 over the preceding year occurred largely during the second and third quarters, when, in anticipation of increased duties under the then pending tariff legislation, enormous shipments of many kinds of goods were made at the risk of overloading and breaking down the American market.

But the most interesting exhibit which can be derived from the statistics of the past year is a comparison of the declared exports from Frankfort and its subordinate consulates during the fourth, or December, quarter of 1889 under the old tariff of 1883 with those of the corresponding quarter of 1890 under the new tariff of October 1. From the fact that the shipments of the December quarter in 1889 had been exceptionally heavy and had been followed by the large speculative exports which preceded the adoption and enforcement of the new schedule, it was to be expected that the first quarter after the latter went into effect would show a marked and uniform decrease throughout the whole of Germany. The following, however, is the actual result:

Consulate.	Fourth quarter of 1889.	Fourth quarter of 1890.	Increase.	Decrease.
Frankfort	$915,253.91	$942,219.77	$26,965.86	....
Aix la Chapelle	548,937.75	507,556.06	....	$41,381.69
Barmen	1,650,305.76	1,575,445.88	....	74,859.88
Crefeld	1,257,676.84	1,218,796.54	....	38,880.30
Cologne	620,462.90	472,189.99	....	148,272.91
Dusseldorf	381,594.70	368,702.39	....	12,892.31
Mayence	552,654.12	718,097.67	165,443.55	....
Mannheim	745,328.24	866,269.63	120,941.39	....
Munich	348,014.96	349,696.04	1,681.08	....
Nuremberg-Fürth	1,464,875.37	1,308,795.09	....	156,080.28
Sonneberg	546,596.80	728,667.93	182,071.13	....
Stuttgart	345,838.30	346,509.56	671.26	....
Strasburg-Kehl	548,937.75	556,985.60	8,047.85	....
Total	9,926,477.40	9,959,932.15	*505,822.12	472,367 37

* Net increase, $33,454.75.

So that, notwithstanding the slight falling off at certain consulates, like Crefeld and Barmen, where woolens and certain other classes of manufactures have encountered increased duties under the new United States tariff, the net result for the whole territory under the supervision of this consulate-general is an actual increase of more than $33,000 over the already heavy commerce of the same quarter in 1889.

Elsewhere in Europe the same result has been realized even in a more marked degree. Even in Austria, where widespread ruin was foretold as the result of American tariff legislation, the returns for the quarter just past show a net increase of $1,684,898.97 over the exports to the United States during the corresponding quarter of 1889.

Berlin shows an increase for the same period of $204,180.76; Lyons, $452,418.21; Basle, $393,711.70; and so on, the decrease in one consular district—whenever such decrease occurs—being thus far uniformly more than overbalanced by the increased exports from an adjoining one.

Table showing the value of declared exports to the United States from the aistrict of the United States consulate-general at Frankfort during the year ended December 31, 1890.

Articles.	Aix la Chapelle.	Barmen.	Cologne.	Crefeld.	Dusseldorf.
Braids, bindings, trimmings, etc.		$1,488,240.97			$15,098.71
Book, stationery, photographs, and paper ware	$103,714.12		$16,770.40	$76,578.81	134.00
Buttons, button stuffs, etc.	6,757.74	164,793.26			21,358.81
Caps and cartridges					18,306.22
China, glass, porcelain, stone, and earthen ware			89,258.29		87,549.08
Cloth	1,177,791.52				4,953.91
Cologne water			16,799.35		
Dyes, drugs, chemicals, etc.	38,742.41	698,448.07	409,470.85	23,472.16	147,404.31
Fancy goods and toys		192,704.57	14,835.62		
Glass plate, window and mirror glass	107,196.81				
Gloves	175,507.50				
Hatbands and ribbons		1,145,356.41		394,978.81	
Ironware, steel, cutlery, etc.	95,294,24	1,583,557.41	929,086.81		666,888.82
Leather, hides, and skins			162,387.26		
Linen, woolen, and cotton goods	8,852.83	1,212,118.17	5,187.76	14,562.28	224,124.90
Machinery	555.80	16,949.22	4,041.94	2,815.80	18,217.86
Mineral water	3,796.91		413,927.28		5,550.15
Oil and glass paintings and chromos	71,135.40			5,640.82	12,692.03
Prunes, dried fruits, nuts, land produce, etc.		77,322.59	60,487.51		67.96
Pins and needles	82,033.54				
Silk, silk goods, velvets, ribbons, braids, etc.		807,843.84	351,008.87	5,458,625.88	132,808.71
Smokers' articles, snuff, cigars, and tobacco			26,775.68		
Soaps and perfumery			12,661.55		
Sundries	1,821.84	132,436.97	85,567.84	80.44	25,961.21
Steel (manufactured) and Bessemer	117,714.01				
Wine, brandy, beer, and liquor	2,493.41		243,354.03	34,129.02	1,867.51
Total	1,993,408.08	7,519,771.48	2,841,621.04	6,010,884.02	1,382,984.20
Total for preceding year	1,884,571.72	5,575,146.05	2,358,093.87	5,436,838.36	1,613,377.12
Increase	108,836.36	1,944,625.43	483,527.17	574,045.66	
Decrease					230,392.92

Articles.	Fürth.	Frankfort.	Kehl.	Mannheim.	Mayence.
Braids, bindings, trimmings, etc.		$965.10			
Baskets and basket ware		872.40			
Brushes and hair pencils	$4,482.49	557.02			
Bronze powder and leaf metal	155,725.36				
Books, stationery, photographs, and paper ware	33,295.79	194,280.98	$109,310.30	$11,768.31	$434.69
Buttons, button stuffs, etc.		13,256.97	37,433.90		
Clay		59,882.92			
China, glass, porcelain, stone, and earthen ware		37,718.45	75,445.25	21,272.81	
Cloth	451.92	13,299.29			
Downs and feathers		45,869.43			
Dyes, drugs, chemicals, etc.		1,410,738.55	73,111.40	1,905,164.03	664,912.03
Fancy goods and toys	85,855.92	103,686.94		2,845.02	
Glass plate, window and mirror glass	896,198.15	3,091.62			

Table showing the value of declared exports to the United States, etc.—Continued.

Articles.	Fürth.	Frankfort.	Kehl.	Mannheim.	Mayence.
Gloves				$17,794.58	
Hatter's fur		$204,965.38			
Hair, prepared and raw		138,849.03	$115,321.85		
Hares' hair		292,448.55			
Hops	$34,735.88	106,633.12	8,753.05	8,414.94	$301,750.93
Instruments	9,062.62	5,355.36	3,102.85		
Ironware, steel, cutlery, etc	553.10	10,012.17	160,052.95	7,837.36	10,800.09
Jewelry and precious stones		483.43		16,541.95	350,279.71
Leather, hides, and skins		325,799.13	313,396.40	745,821.82	111,117.13
Leather goods		44,865.26			
Linen, woolen, and cotton goods		30,081.73	686,027.50	6,999.80	402.81
Lithographic stones and materials	5,718.19				
Machinery	1,190.00	38,148.28	19,992.80		
Mineral water		69,264.97			
Music, musical strings and instruments		4,454.74	10,025.50	1,861.75	4,952.12
Optical goods		23,180.51			
Oil and glass paintings and chromos		4,646.36			6,648.75
Platina wire and platinum		299,245.89			
Prunes, dried fruits, nuts, land produce, etc	9,005.85	71,308.14	28,891.45	58,732.68	30,519.42
Seeds, plants, etc		48,757.12			
Silk, silk goods, velvets, ribbons, braids, etc		1,839.70	216,121,10	104.89	
Smokers' articles, snuff, cigars, and tobacco		15,504.11	6,515.20	5,670.32	
Soaps and perfumery		12,352.52			
Statuary and sculpture		97.84			
Sundries	7,776.88	56,067.72	18,259.55	98,151.37	18,896.91
Steel (manufactured) and Bessemer		1,777.02			
Wine, brandy, beer, and liquor	813.50	136,195.82	6,785.90	212,016.08	806,037.85
Watches, clocks, and watchmen's detectors		38,016.31	15,193.70	300.42	
Total	1,244,865.65	3,864,569.88	1,903,740.63	3,121,298.13	2,306,752.44
Total for preceding year		3,351,424.61	1,986,158.70	2,467,337.78	1,848,648.88
Increase	1,244,865.65	513,145.27		653,960.35	458,111.56
Decrease			82,418.05		

Articles.	Munich.	Nuremberg.	Sonneberg.	Stuttgart.	Total.
Braids, bindings, trimmings, etc					$1,504,304.78
Baskets and basket ware		$45,139.42	$244,059.65		290,071.47
Brushes and hair pencils		38,198.95			43,238.46
Bronze powder and leaf metal	$10,689.10	661,106.76			827,521.22
Books, stationery, photographs, and paper ware	93,059.85	108,316.90	50,600.16	$51,529.66	921,793.97
Buttons, button stuffs, etc					243,600.68
Caps and cartridges					18,306.22
Clay					59,882.92
China, glass, porcelain, stone, and earthen ware	31,727.24	14,910.78	1,122,338.33		1,480,220.23
Corsets				217,127.01	217,127.01
Cloth					1,106,406.64
Cologne water					16,799.35
Downs and feathers					45,509.43
Decalcomania		56,055.92			56,055.92

Table showing the value of declared exports to the United States, etc.—Continued.

Articles.	Munich.	Nuremberg.	Sonneberg.	Stuttgart.	Total.
Dyes, drugs, chemicals, etc	$32,913.12	$50,675.30	$116,682.02	$263,421.90	$5,835,156.15
Fancy goods and toys		382,438.92	1,444,231.88		2,226,598.87
Glass plate, window and mirror glass		1,366,505.31			2,372,991.89
Gas-burners, lava gas tips, brass lamps		22,910.56			22,910.56
Gloves	190,189.21		70,324.43		453,815.72
Hatters' fur					204,965.38
Hatbands and ribbons					1,540,335.22
Hair, prepared and raw					254,170.88
Hares' hair					292,448.55
Hops		846,477.89	185,884.09		1,492,649.90
Instruments	15,121.40	53,149.42		15,830.21	101,621.86
Ironware, steel, cutlery, etc		46,709.28	7,866.74	19,903.97	3,529,562.94
Jewelry and precious stones				26,807.89	394,112.98
Leather, hides, and skins		1,344.11		7,948.00	1,667,813.85
Leather goods					44,865.26
Leonic ware		82,232.97			82,232.97
Linen, woolen, and cotton goods	58,405.02	39,495.71	495,693.11	350,119.60	3,132,074.22
Lithographic stones and materials	10,027.41	87,135.02			102,880.61
Machinery		1,587.50			103,499.21
Mineral water			3,821.22		496,360.53
Music, musical strings and instruments	12,782.47	50,323.99	1,514.94	182,625.91	268,541.42
Optical goods		6,963.53			30,144.04
Oil and glass paintings and chromos	236,093.14				336,856.50
Platina wire and platinum					299,245.89
Prunes, dried fruits, nuts, land produce, etc	342,515.59	12,718.18	3,979.11	201,765.24	897,313.72
Pins and needles					82,033.54
Seeds, plants, etc	27,904.25		48,451.19		125,112.56
Slates, slate pencils, lead pencils		169,032.44	47,600.33		216,632.77
Silk, silk goods, velvets, ribbons, braids, etc			21,581.12		6,989,934.11
Smokers' articles, snuff, cigars, and tobacco		1,226.68			55,691.99
Soaps and perfumery					25,014.07
Statuary and sculpture	47,520.80				47,618.64
Sundries	76,672.24	39,476.78	28,348.27	149,321.49	738,839.51
Steel (manufactured) and Bessemer	14,842.20				134,333.23
Wines, brandy, beer, and liquors	30,453.06	35,711.28	39,297.18	7,634.30	1,556,788.94
Watches, clocks, and watchmen's detectors				3,669.37	57,179.80
Total	1,230,919.10	4,291,843.60	3,932,273.77	1,488,704.55	43,133,636.59
Total for preceding year	1,027,605.84	5,276,855.60	2,962,927.10	1,373,411.91	37,162,389.54
Increase	203,313.26		969,346.67	115,292.64	5,971,247.05
Decrease		985,012.00			

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, January 26, 1891.

MUNICIPAL ADMINISTRATION OF BOMBAY.

REPORT BY CONSUL BALLANTINE.

SEWERAGE.

Owing to the conflict of opinions on sewerage and drainage questions in Bombay, it was deemed essential that some eminent authority should be consulted, and Mr. Baldwin Latham was engaged to aid the municipality with his advice. This gentleman, after an exhaustive inquiry, made a report on the sanitary requirements of the town.

REVENUE.

The total revenue of the year was $2,136,868, exceeding the estimated revenue by $168,788, and the total expenditure was $2,016,962.

The following table shows the revenue for the year 1889–'90:

Items.	Amount.	Items.	Amount.
General tax	$664,678	Town duties	$266,826
Water tax and miscellaneous waterworks revenue	449,203	Liquor licenses and tobacco duty	133,869
Halalkhor tax, including receipts for special service	189,568	Market receipts	120,850
Wheel tax and toll fees	130,246	Returns from property and miscellaneous	181,628
		Total	2,136,868

The following table shows the loan works expenditures for 1889–'90:

Items.	Amount.	Items.	Amount.
Tansa	$1,377,438	Roads	$18,408
Other waterworks	68,151	Minor sanitary and other works	84,254
Sewerage works	124,820	Total	1,758,931
Markets	85,860		

The following table shows the charges debitable to current revenue, exclusive of advances and other adjustment items for 1889–'90:

Items.	Amount.	Items.	Amount.
General superintendence	$70,853	Pensions, gratuities and compassionate allowances	$11,656
Assessment and collection department	77,057		
Public health department	478,630	Education	24,143
Public works:		Hospitals and dispensaries	14,099
Ordinary	521,412	Police	103,315
New	18,399	Miscellaneous	39,491
Public gardens	26,061	Total	2,016,962
Fire brigade	37,562		
Municipal debt	594,284		

WATERWORKS.

Satisfactory progress was made in the several divisions of the Tansa project. The outturn of masonry work was 3,103,689 cubic feet. At the end of the year 13,070 feet of tunneling had been executed. The total value of the work done up to the close of the year was 32⅞ lacs rupees,* the value of the work executed during the year being 16⅞ lacs rupees. The quantity of water stored in the Vehar lake on the 31st of October, 1889, was less by 470,000,000 gallons than the amount stored there on the corresponding date of the previous year, and, to avert the contingency of a failure of the municipal water supply, the Pawai valley scheme was at once adopted.

ROADS.

Four steam rollers were purchased, and additions were made to the stock of water tanks and watering carts; 110,000 square feet of foot-paths were paved with bluestone.

LIGHTING.

A fresh contract was entered into with the Bombay Gas Company for a term of 3 years, under which the illuminating power will be increased from 12 to 14 candles.

FIRE BRIGADE AND FIRES.

The control of the fire brigade was transferred to the municipality, by whom it was reorganized and its staff increased. There were eighty-eight fires during the year 1889–'90, against eighty-six in the year before, while the approximate amount of damage done by them rose from 7⅞ to 22⅞ lacs rupees. A fire that occurred in Apollo street on November 11, 1889, caused damage to houses and goods to the extent of 16⅝ lacs rupees.

BIRTHS AND DEATHS.

There were registered 600,489 births in 1889. The rate per 1,000 of population was 36.49. The proportion of male to female children born was 108.85 to 100. Out of every 100 children born there were 52.12 males and 47.88 females.

The total number of deaths recorded in 1889 was 518,562. The ratio per 1,000 was 31.51. The death rate of males per 1,000 of male population was 31.89 and of females per 1,000 of female population 31.11.

PUBLIC GARDENS.

Nine gardens were maintained by the municipality in the town and island of Bombay during the year under review. Their names and the actual expenditure on each are shown below.

Gardens.	Cost of maintenance.	Gardens.	Cost of maintenance.
Victoria Gardens	$20,091	Garden on the Flats	$413
Elphinstone Circle Garden	1,317	Dick's Tank Garden	83
Falkland Road Garden	238	Malabar Hill Garden	261
Northbrook Garden	596	Total	23,478
Sir Kavasji J. Garden	167		
Bazar Gate Garden	312		

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*1 lac rupee = 100,000 rupees; 1 rupee = 40.4 cents.

All were largely frequented by the people. By a new arrangement that was introduced the public were admitted to the Victoria Gardens free of cost on the principal holidays and on 3 days of the week, and were charged a small additional fee on other days. Improved accommodation was provided for a portion of the zoölogical collection, and alterations for the better were made in the arrangement of the gardens themselves.

H. BALLANTINE,
Consul.

UNITED STATES CONSULATE,
Bombay, January 23, 1891.

RAILWAY TRAFFIC AND LABOR IN ENGLAND.

REPORT BY CONSUL WIGFALL, OF LEEDS.

The appended figures as to English railway traffic for the first half of the year 1890 may be of interest:

THE HALF YEAR'S RAILWAY RECEIPTS.

From the following table, in which are presented the totals of the traffic returns published in the Yorkshire Post throughout the past 26 weeks, it will be seen that in the aggregate the half year's receipts of the fourteen principal English railways show an increase of £1,139,799 over the corresponding period of 1889, comparing with the increase of £1,325,895 which 1889 exhibited over 1888:

Railways.	Goods, etc.	Passengers.	Increase.	
			Goods.	Passengers.
Great Eastern	£829,104	£916,493	£28,286	£63,492
Great Northern	1,204,590	785,002	28,155	20,275
Great Western	2,234,450	1,798,700	28,240	77,810
Lancashire and Yorkshire	1,251,627	817,902	4,888	48,604
London and Northwestern	3,222,414	2,147,594	69,638	105,700
London, Brighton, and South Coast	289,457	802,151	8,575	42,635
London and Southwestern	482,282	1,024,307	8,528	51,973
London, Chatham, and Dover	138,455	490,342	4,133	10,591
Metropolitan	....	342,385	....	5,759
Metropolitan District	....	195,312	....	10,009
Midland	2,836,929	1,195,900	134,806	56,367
Northeastern	2,471,434	929,892	188,324	71,424
Southeastern	273,245	713,967	3,041	35,340
	15,233,987	12,159,947	506,614	599,979
	27,393,934		1,106,593	
Manchester, Sheffield, and Lincolnshire	1,080,217		33,206	
Total	28,474,151		1,139,799	

The aggregate gain of this year works out to just over 4 per cent., and it is to be noticed that this time passenger traffic contributes the greater part of the increase, reversing the record of 1889, when the increase over 1888 was 5½ per cent. and the increment in goods receipts exceeded that of the other department by £180,000.

Usually in approximating dividends the first thing to be considered is the amount of new capital to be provided for; but on the present occasion the chief element of uncertainty to be reckoned with is the abnormal rate of working expenses, due to the increased cost of both labor and stores, and particularly, of course, of fuel. In several cases, however, some little provision has been made towards this in the larger amount of undivided profit carried over from the last distribution, though not all of the fourteen companies are in this position, as will be seen from the actual figures as well as the comparison given below, the balances brought into the current 6 months' account from the December half year being as follows:

Railways.	Amount.	Railways.	Amount.
Great Eastern	£61,305	London, Chatham, and Dover	£62,786
Great Northern	8,321	Manchester, Sheffield, and Lincolnshire	2,519
Great Western	59,055	Metropolitan	14,012
Lancashire and Yorkshire	26,318	Metropolitan District	6,132
London and Northwestern	111,048	Midland	69,705
London, Brighton, and South Coast	8,177	Northeastern	41,007
London and Southwestern	21,903	Southeastern	15,028

These balance differences, favorable and adverse as compared with 1889, are shown in the table subjoined, along with the combined traffic increases, the amount of additional profit required to yield an increased dividend of one-fourth of 1 per cent. for the half year (that is to say, after the rate of one-half of 1 per cent. per annum), and the dividends declared for the corresponding half of 1889:

Railways.	Increase in receipts.	Increase or decrease in balance.	Required to pay one-fourth of 1 per cent. dividend for half year.	Dividend, 1889.
				Per cent.
Great Eastern	£91,778	+ £20,794	£31,936	1.5
Great Northern	48,430	— 491	*33,908	3.5
Great Western	106,050	+ 9,007	50,774	5.5
Lancashire and Yorkshire	53,492	+ 5,096	41,878	4.25
London and Northwestern	175,338	+ 13,900	94,120	6.75
London, Brighton, and South Coast	51,210	— 2,899	*18,750	4.25
London and Southwestern	60,501	+ 11,810	29,058	4.5
London, Chatham, and Dover	14,724	+ 35,809	†15,824	†3.25
Manchester, Sheffield, and Lincolnshire	33,206	+ 335	13,730	1.25
Metropolitan	5,759	— 7,798	13,204	3
Metropolitan District	10,009	+ 1,525	‡3,750	....
Midland	191,173	+ 17,204	75,538	5.25
Northeastern	259,748	+ 7,663	60,176	6.25
Southeastern	38,381	+ 4,458	*23,608	3

* Including preferred and deferred stock. † Arbitration first preference stock. ‡ Preference stock.

It is not possible to approximate with any degree of exactitude the effect of the increased expenditure on wages, stores, and fuel, which was only partially felt in the latter part of 1889; but in the June half coal and coke absorbed about £950,000, and 30 per cent. on this would mean an additional £285,000, to say nothing of increased train mileage. Nor are any satisfactory data as to the general effect to be gathered from the monthly net revenue returns published by some of the companies. Thus the Manchester, Sheffield, and Lincolnshire Company's statement to June 15, exclusive of joint lines, shows an increase in receipts of £15,588 (one-eighth of 1 per cent.) and in expenses of £38,373 (seven-eighths of 1 per cent.), the loss on balance being £22,785. Somewhat better than this is the statement of the Southeastern, which, brought down to May 17, reports increased receipts equal to 3 per cent. and an increase in expenses of 4.6 per cent., the gain to net revenue during the 19 weeks being £3,495. The London, Brighton, and South Coast return to the end of May (including this year's Whitsuntide traffic, but not last year's) is still better, showing a gain in gross receipts of £54,982 (7.1 per cent.) and £30,894 in expenses (6.5 per cent.), or an increase in net profit, of £24,088, whilst the interest on priority stocks calls for no more than an additional £560. But, in using the figures of the southern lines as a possible test for others, it has to be recollected that an increase derived from passenger traffic does not involve the same increase in train mileage as in the case of goods and minerals.

Making necessary allowance for increased capital as well as expenses, but putting out of the reckoning any payment from the Southeastern to the London, Chatham, and Dover under the Shorncliffe decision (which would go to benefit the second preference), it is probable that the net results of the half year's working will be found sufficient for dividends as below:

Railways.	1890.	1889.
	Per c't.	*Per c't.*
Great Eastern	1.75	1.5
Great Northern	3.25	3.5
Great Western	5.5	5.5
Lancashire and Yorkshire	5.5	5.5
London and Northwestern	7	6.75
London, Brighton, and South Coast	4.5	4.25
London and Southwestern	4.75	4.5
London, Chatham, and Dover (preferred)	4.5	3.75
Manchester, Sheffield, and Lincolnshire	0.75	1.25
Metropolitan	2.75	[illegible]
Midland	5.5	5.25
Northeastern	6.75	6.25
Southeastern	3	3

LABOR RETURNS.

In the same connection may be added a conspectus of returns from twenty trades unions for the month of June, 1890, representing an aggregate membership of 218,739, as below:

STATE OF THE SKILLED LABOR MARKET.

[From the Yorkshire Post.]

The following memorandum has been prepared for the Board of Trade Journal by the labor correspondent to the board of trade:

"Twenty trades unions representing skilled trades have this month sent in returns as to the state of their respective labor markets. These show a slight diminution in the number of unemployed members, and, but for disputes in some of the industries concerned, this reduction would have been greater than it is. Generally speaking, however, the labor market is a little more settled than it was a month ago, and strikes are not quite so prevalent as they have been during the past few months. Thus, while during the month of May 106 strikes were recorded and in the month of April 91, but 79 were entered for the month of June. For 13 of these the cotton trade is responsible; there were 9 in the woolen trade, 8 in coal-mining, 7 among dock laborers, 6 in the building trades, 5 in iron and steel foundries, 5 in engineering trades, 6 in the boot and shoe trades, 3 in shipbuilding, and the remainder are divided among the miscellaneous industries. Nor can it be said that any of these are of serious importance.

"There is thus reason to hope that we are likely for a time to enjoy a somewhat more peaceable state of relations between employers and employed than has recently prevailed.

"The general returns as to the numbers of unemployed show that, on the whole, trade remains good. In no single trade is there any considerable increase in the number of those on benefit, while, on the other hand, a large majority show some diminution. The twenty societies reporting have an aggregate membership of 218,739, and of these 4,118 were out of work, a percentage of 1.88. For these same societies last month the total of those out of work was 4,236, a proportion of 1.96 per cent. Practically, therefore, the position remains unchanged, the improvement being of the slightest possible description.

"All the branches of the engineering trade remain busy and show rather better returns than they did a month ago, the iron-founders showing the greatest improvement, their percentage of unemployed having fallen from 2.8 to 2.3. Shipbuilding does not seem quite so brisk as it has been, and there is a slight increase in the number of those out of employment. The building trades exhibit no change, but remain very good, and show a low percentage of members on the unemployed benefits. The strikes in the cabinet-making trade have now terminated, and not one in a hundred of those engaged in that industry are now unable to find employment. The textile trades are but moderately employed, though for this season of the year the cotton trade is better than it has been for some years back. The coal trade continues busy, and the iron trade is fairly good, while the steel trade is very well employed, the percentage of steel-smelters out of work being only 5. The clothing trades, including boot and shoe making, are not quite so well employed as they were, but it is expected that the lull is but temporary. The printing trade, though not particularly busy, is quite up to the average for the season."

A summary of these statements would seem to show a generally satisfactory product for the 6 months' operations considered as a whole. Whether the continuing result will prove of an equally gratifying character remains for the coming months to develop.

F. H. WIGFALL,
Consul.

UNITED STATES CONSULATE,
Leeds, July 30, 1890.

EMIGRATION FROM HAVRE IN 1890.

REPORT BY CONSUL WILLIAMS.

I have the honor to report the following as official and this day received by me:

During the year 1890 the passengers carried from Havre to New York by the Compagnie Génerale Transatlantique were as follows: First class, 6,146; second class, 2,195; third class, 24,827; total, 33,168. The number carried by this company during 1890 was only 60 less than were carried during the year of the Paris Exposition (1889), 33,228.

I inclose a clipping and translation, from which it will be observed that, comparing the steamer passenger business from this port for the year 1890 with that of 1889, we find shown an increase in total number of ships of 8.87 per cent., in those destined to New York of 11.11 per cent., in total emigration from Havre of 21.76 per cent., in that direct from Havre of 4.87 per cent., and in that from Hamburg via Havre of 76.27 per cent.

OSCAR F. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Havre, January 30, 1891.

No. 127——2.

EMIGRATION FROM HAVRE.

[Inclosure in Consul Williams's report.—Translation from Le Petit Républicain du Havre, January 24, 1891.]

The number of emigrants embarking directly from Havre during the year 1890 was 39,922, against 38,065 in 1889, which shows for the year 1890 an increase of 1,857. These 39,922 emigrants are classified in the following manner: French, 9,076; and foreign, 30,846.

With respect to nationality, the following presents some information more in detail:

Nationality.	Number.	Nationality.	Number.
French	9,076	Spanish	99
Alsatian and Lorrainian	3,036	Russian	384
German	1,942	Turkish	1,837
Swiss	7,424	Grecian	494
American	754	Scattering	97
Italian	12,854	Total	39,922
Austrian	1,317	Total for 1889	38,065
English	105		
Belgian	503	Increase	1,857

Following the above, the destination of these 39,922 emigrants was as follows:

Destination.	Number.	Destination.	Number.
West Indies	106	Colombia	17
Brazil	353	Uruguay	260
Canada	607	Total	39,922
Argentine Republic	8,922		
United States	29,657		

If there be added to this number the 20,785 emigrants who came from Hamburg, and who only made a call in our port, the total number of emigrants leaving Havre in 1890 is raised to 60,707. These 60,707 emigrants have been transported by 184 ships, of which 115 were French, 59 German, and 10 English. These steamers left for destinations as follows:

Destination.	Number.	Destination.	Number.
West Indies	8	Colon (Aspinwall)	3
Brazil	30	New York	100
Buenos Ayres	33	Total	184
Canada (via England)	10		

AUSTRALIAN WOOL, 1890.

REPORT BY CONSUL-GENERAL WALLACE, OF MELBOURNE.

The local market for Australian wool in November, 1889, closed at an advance of about 2½*d.* to 3*d.* per pound on greasy, and 4*d.* to 4½*d.* on scoured, descriptions as compared with the close of 1888. This was, however, partially lost at the December sales, yet the year closed with an advance of 1½*d.* to 2*d.* for greasy and about 3*d.* to 3½*d.* on scoured as compared with the commencement.

The sales for 1890 opened January 7, showing an advance of half a penny per pound over December, 1888; but prices were not very firm, and by the 22d the advices from Antwerp were distinct notes of warning of the coming collapse of prices, and from that date to the end of the season the local markets showed active, obedient sympathy with the European markets.

The exports of wool from Australasia for the season 1888–'89, as compared with the previous 12 months, were as follows:

Colony.	1889–'90.	1888–'89.	Increase.	Decrease.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria	425,928	352,982	72,046	....
New South Wales	472,734	453,601	19,133	....
South Australia	148,417	133,139	15,278	....
West Australia	23,999	21,881	2,118	....
New Zealand	279,950	267,289	12,661	....
Queensland	104,309	106,222	....	1,913
Tasmania	19,251	19,536	....	285
Total	1,474,588	1,354,650	122,136	....

This shows a net increase of 119,938 bales; but this does not, however, represent the actual increase in production of the 1889 clip, as there remained June 30, 1889, 20,000 bales unshipped of the 1888 clip. The net increase was, therefore, about 80,000 bales, or 6 per cent.; and, in view of the fact of an increase of 4,686,444, or 5 per cent., in the number of sheep and that it was believed the clip was the heaviest ever known, this increase in production is not excessive.

The Victorian wool sales for the season 1890–'91, instead of commencing the first week of October, as had been customary for a number of years, did not open until the 15th of that month and were adjourned after the sale on the 22d of December until after the holidays. To date the sales, as compared with the same portion of the previous wool season, are as follows:

Names of selling brokers.	1890.	1889.	Increase.	Decrease.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Goldsborough, Mort & Co	38,706	53,610	....	14,904
New Zealand Loan and M. A. Company	36,810	50,352	....	13,542
A. M. and Agency Company	22,326	28,595	....	6,269
Dalgety & Coy	20,449	24,341	....	3,892
Union M. and Agency Company	8,694	8,982	....	288
Younghusband & Co	4,077	3,386	691	....
D. Lascelles & Co	30,096	31,897	....	1,801
George Hague & Co	9,206	9,798	....	592
Strachan B. & Co	2,768	1,622	1,146	....
Others	*400	1,636	....	*1,236
Total	173,532	214,219	....	40,687

* Estimated.

These figures show a large decrease in the sales. This decrease is attributed to several causes: first, to the lateness of the season in consequence of the shearing difficulties in connection with the maritime strike; secondly, to the lightness of the Victorian and Riverina clip, which is not expected to be so large as last season; and, thirdly, the low prices paid locally, although fully equal to those ruling in London—freight and charges being taken into consideration—have determined a number of wool-growers to risk that market. As far as the decrease is due to the lateness of the season, it is likely to be made up by the increased volume anticipated in January and February.

The opening prices were at least 15 per cent. below those of the previous season and on about the same level as those in 1888. The news of the financial panic in London in November depressed prices to fully 20 per cent. below the opening rates of 1889, but there was some recovery in December, and present Melbourne quotations for ordinary merino wool are about 15 per cent. below the close of 1889.

From information obtained by the Argus (newspaper), of Melbourne, the following comparison of values is made, which would indicate that the condition of the clip was not so satisfactory as in the previous year:

Period.	Number of bales sold.	Value.			Average value per bale.		
		£	s.	d.	£	s.	d.
October 2 to December 20, 1889	214,219	3,239,194	0	7	15	2	5
October 15 to December 22, 1890	173,532	1,993,866	8	1	11	9	9

The falling off in the value of wool sold is large; the average per bale is £3 12*s.* 8*d.*, or 24 per cent. These facts would appear to indicate that the average fall on all descriptions of wool has been about one-fourth; but this is not true, as very "light fine" in good condition is scarce, and commands more than average top prices. The clip as a whole is much inferior to that of 1889, which was a very good one.

The following is taken from the Melbourne Argus of January 3, 1891:

> The condition of that portion of the Australian clip which has passed through the Melbourne warehouses has been quite as unsatisfactory as the prices realized for it. The clip of 1889 was one of the best ever shorn, but that of 1890 has been in striking contrast to it. As regards that portion of the clip from western and central Riverina and northern Victoria, it bids fair to be remembered as one of the burriest and seediest clips for many years. This is probably due to the fact that the abnormally abundant season experienced during the winter and spring of 1889 produced an unusual growth of trefoil burr and other kinds of seeds, most of which, however, did not ripen until after the 1889 shearing. In this way the 1890 clip has become infested with it. As a general rule, a burry clip has the compensating advantage of being sound and well grown and free from earth and dust, the same cause, namely, an abundant season, producing both the burr and the sound growth of wool. This season, however, unfortunately, the rule does not apply, for the very burry clips referred to are usually more shabby in appearance, more earthy, and lacking in substance. This is explained by the fact that many districts have suffered severely by the ravages of locusts while the present clip was growing, and that the rains, though fairly abundant, were not well timed. Of wools from eastern Riverina only a few are up to last season's standard, many being tender in staple and lacking in brightness. Those of the western district of Victoria, too, are not equal to those of last season, being frequently more tender in staple and lacking in robustness. Upper Lachlan wools compare very favorably with last year's clip, being well grown and light in condition, though somewhat lacking in fineness. These wools had formerly a reputation for exceptional fineness of quality, and were much prized for making superior weft yarns. They have, however, in many instances now lost this special quality, owing, no doubt, to a desire on the part

of the owners to produce heavier fleeces, and thus obtain larger returns per head. Wools from the lower Darling, though better grown, are heavy in the grease. Those from the middle and upper Darling, however, are frequently mushy, seedy, and earthy. Northern Adelaide wools are inferior in staple, more burry and seedy, but generally in lighter condition. That portion of the New South Wales clip which is usually marketed in Sydney is, as a whole, distinctly inferior in growth and is infested with burrs and seeds of various kinds. It is, however, estimated to contain less grease and to be finer haired than that of last year. Speaking generally, the Australian clip of 1890 is expected to give a better yield to the manufacturer than its predecessor, though, unfortunately for the growers, the yield per head is undoubtedly considerably less than that of last year. When we wrote 12 months ago, we were able to congratulate the trade upon the great improvement in the growth and character of small clips of wool from farmers who keep from 100 to 1,000 sheep, which now form no inconsiderable portion of the total wool produce of Victoria and Riverina. We regret to say, however, that any hopes formed last year of a permanent improvement in this class of produce have not been sustained this season.

The following is added as a very fair estimate of the production for the year 1890. The distribution of the clip compares as follows with that of the two previous seasons:

Destination.	1889-'90.	1888-'89.	1887-'88.
	Bales.	*Bales.*	*Bales.*
London	1,225,259	1,182,001	1,162,478
Continent:			
Direct	205,666	88,131	42,900
Via London	32,322	46,277	45,342
America:			
Direct	4,320	30,767	18,847
Via London	7,021	7,474	3,922
Total	1,474,588	1,354,650	1,273,489

The above figures relating to the distribution of the clip are chiefly remarkable for the very large increase, namely, 117,535 bales, in the direct shipments to the continent of Europe. The direct shipments to America, on the other hand, were much smaller than usual.

Regarding the probable production of the present (1890) clip, there is considerable difference of opinion among even the best authorities. At first it was assumed rather hastily that there would be a normal increase of, say, 100,000 to 120,000 bales, for no better reason than the fact that during most ordinary seasons this increase has been forthcoming. As, however, the season progressed and a large decrease, amounting to 140,000 bales, in the shipments to date developed itself, opinion swung around (perhaps rather too far) in the opposite direction, and it is now asserted in some quarters that there will be no increase at all, or at all events only an inconsiderable one. This latter opinion is based to some extent upon the decrease in the shipments to date, of which too much notice is probably taken, and also upon the pretty well ascertained fact that the clip per head throughout Victoria and Riverina is decidedly lighter than it was last season. On the other hand, however, it is asserted that the clip per head in eastern and central New

South Wales, to the north of Riverina, is rather heavier per head and that this will largely counterbalance the lightness per head in the south. As a matter of fact, however, it is yet too early to venture upon any definite opinion as to the probable production of the 1890 clip.

GEORGE H. WALLACE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, January 8, 1891.

THE TRADE OF RUSSIA.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

As considerable discussion is now taking place in the press of this city as to the causes for a decline both in Russian exports and imports for the past year, as shown by a report just published by the administration of the imperial custom-house for the first 11 months of 1890, I have made a brief summary of the trade of Russia from January 1 to December 1, 1890, and based upon the above-mentioned publication.

In the first place, the custom-house receipts for the above-mentioned period of the most important articles of import amounted to 73,556,000 rubles, showing an increase of 1,731,000 rubles as compared with the corresponding period of the preceding year.

As usual, the month of November has been marked by a certain decrease in exports. However, it has already been pointed out in the local papers that the past year was less favorable for the exportations than any preceding years, principally because of the rise in the value of the ruble. In comparing the totals of the exportations during the first 11 months of the last 3 years, we obtain the following figures:

	Rubles.
1890	642,073,000
1889	697,611,000
1888	719,305,000

On the other hand, the imports for the same period were as follows:

	Rubles.
1890	351,493,000
1889	360,023,000
1888	318,572,000

In these figures are not included the exports and imports of the precious metals, gold and silver, which are tabulated separately as below:

Description.	1890.	1889.
	Rubles.	*Rubles.*
Exported	17,821,000	19,617,000
Imported	21,492,000	11,582,000

The exports of cereals show a decrease of 28,114,000 rubles in the above-named period. Other important farm products show a striking decrease in this period, and were distributed as follows:

Articles.	Amount.	Articles.	Amount.
	Rubles.		*Rubles.*
Butter	1,500,000	Hemp	4,000,000
Sugar	9,000,000	Hides	700,000
Forest products	1,900,000	Wool	9,594,000
Flaxseed	2,000,000	Cattle	1,400,000
Flax	1,400,000		

Of the principal articles of exportation, only the following show an increase:

Articles.	1890.	1889.
	Rubles.	*Rubles.*
Eggs	11,946,000	9,776,000
Naphtha	24,729,000	24,222,000

The following table will show a comparative summary of imports and exports for the first 11 months of the year 1889 and 1890:

Articles.	Imports.		Exports.	
	1890.	1889.	1890.	1889.
	Rubles.	*Rubles.*	*Rubles.*	*Rubles.*
Articles of food	58,795,000	55,847,000	360,773,000	393,395,000
Material for manufactures	222,699,000	227,698,000	250,060,000	265,198,000
Animals	932,000	980,000	9,981,000	12,142,000
Manufactured articles	69,067,000	75,498,000	21,259,000	26,876,000
Total	351,493,000	360,023,000	642,073,000	697,611,000

In closing this summary I wish to call attention to the fact that the tenor of the whole discussion upon the reasons for the great decline in Russian exports goes to show that it is mainly due to the unprecedented rise in the value of the ruble,* the currency of the country.

I may add, furthermore, that, in consequence of the above showing, measures are being recommended which look toward a general desire to reduce the value of the ruble to its former level, and thus improve the general business of the Empire.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, February 2, 1891.

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*The United States Treasury valuation of the ruble is 54.4 cents.

THE PORCELAIN INDUSTRY AT LIMOGES.

REPORT BY COMMERCIAL AGENT GRIFFIN.

The annual statement of the number of porcelain furnaces fired at Limoges for 1890 has just been published. The figures of the following table present a very interesting story when considered comparatively, as the year that has just closed may be considered the most important for many years in this industry. The climax of the trade was reached in 1882 and 1883. Then the number of furnaces fired was greater than ever before; but rival factories were opened at that date in Austria, Germany, and England, and Limoges suffered very greatly, so that by 1887 the industry had lost one-third of its importance. Since then, with the exception of 1889, there has been a gradual increase, as shown in the table:

Table showing the number of furnaces fired at Limoges from 1883 to 1890, inclusive.

Months.	1883.		1884.		1885.		1886.	
	Coal.	Wood.	Coal.	Wood.	Coal.	Wood.	Coal.	Wood.
January	115	37	103	33	69	27	80	21
February	123	37	143	37	112	17	121	26
March	197	47	167	42	154	33	125	29
April	195	51	167	41	153	37	129	29
May	205	50	172	43	141	30	112	26
June	204	49	167	39	145	35	123	25
July	201	42	170	39	141	31	139	29
August	208	48	162	35	128	28	132	26
September	194	39	165	35	122	26	135	29
October	222	48	173	38	135	24	143	26
November	193	50	152	33	129	21	140	30
December	182	46	154	33	131	26	129	27
Total	2,239	544	1,895	448	1,560	335	1,528	323

Months.	1887.		1888.		1889.		1890.	
	Coal.	Wood.	Coal.	Wood.	Coal.	Wood.	Coal.	Wood.
January	89	22	96	26	91	20	98	25
February	114	24	117	26	110	24	124	22
March	144	29	155	35	141	27	141	27
April	143	25	149	31	136	29	156	31
May	143	27	154	30	145	25	168	31
June	142	27	148	33	132	27	164	31
July	145	29	151	30	145	29	177	35
August	145	27	158	29	152	32	157	30
September	144	25	143	25	144	25	159	35
October	139	31	150	30	151	30	186	30
November	134	30	146	22	142	28	162	31
December	139	28	138	22	140	27	155	31
Total	1,621	324	1,705	339	1,629	323	1,847	359

EFFECTS OF THE NEW TARIFF.

It is remarkable, in looking over the exports from this district to the United States, to notice the effects of the new tariff. Although the duty on china was unchanged, there was an extra charge made on the packing. The result has been an increase of about 2½ per cent. in the exports, notwithstanding the packing charges, and in spite of the hue and cry made by the French press "that exportations would be excluded by the new duties."

The months of October, November, December, and January just past show an increase of almost one-third over the corresponding months of last year and almost twice as much as for the same period in any year since 1884.

CLASS OF GOODS.

The porcelain manufactured to-day for exportation to the United States is of a finer and more valuable grade than formerly; few houses attempt the manufacture of cheap goods; the decorations are becoming richer and richer; the shapes are finer and more artistic. The American taste is said to be the finest and most highly cultivated of any to which the manufacturers cater. The average price of goods has increased considerably. This is solely due to the richness of decorations and styles.

LABOR AND COST OF MANUFACTURE.

The price of labor has a downward tendency; there has not been published a single increase of wages. The supply of skilled and unskilled labor is greater than the demand; consequently, there has been a corresponding amount of suffering among the laboring classes.

Machines of different kinds are being introduced all the time to diminish hand labor, and thereby the cost of kneading, molding, enameling, etc., are reduced to a minimum. The price of coal, however, has been higher this year than before, costing at the factory 34.6 francs ($6.68) per ton. Wood has been somewhat cheaper than in former years. The high price of coal raises the cost of manufacturing, so that there is a tendency to increase the price of china rather than to lower it.

NEW PROCESSES.

The attention of the Department was called, in a report dated Limoges, December 22, 1890, to a "new process of firing porcelain" by Wright's patent burners, which employ the residuum of petroleum. The interest manifested in the experiments is very great. Numerous petitions have been presented to the French Government to reduce the duty on this product to the same figure as that on coal or wood—1.5 francs (29 cents) per ton—in place of the present duty of 120 francs ($23.16) per ton. If this were done, the cost of manufacturing china in France would be reduced about 20 per cent. The prospects are now considered favorable to the adoption of the low tariff.

Another process that has lately been employed, as yet secretly, but with great success, is the use of electricity in clarifying the kaolin paste. The impurities which discolor and give a yellowish tinge to the ware are eliminated, and a poorer quality of kaolin can be made to produce as fine china as the best clay. The reduction in price is said to be from 5 to 7 francs (96.5 cents to $1.35) per 100 kilogrammes.

INCREASED FIRING CAPACITY.

Since October 1, 1890, three of the largest manufacturers have increased their furnace capacity from one-fourth to one-half. The new furnaces have a diameter of from 18 to 24 feet, it having been found more economical to fire large furnaces than small ones. These new furnaces will add about one-fourth to the furnace power of Limoges, so the prospects are that for the coming year there will be an increased output of china.

OTHER MARKETS.

The principal market for Limoges china is the United States. Between two-thirds and three-fifths of all that is manufactured is sent thither. The home market is of little account; the cheap German and English china, with the poorer kinds of *faïence*, undersell the better porcelain of home factories. Next after the United States and France are England, Russia, South America, and Spain, in the order named.

WALTER T. GRIFFIN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Limoges, January 31, 1891.

THE FOUNDLING ASYLUMS OF FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

Facing the busy quay that traverses the western portion of the city of Bordeaux, and overlooking the fertile banks of the Garonne River on the opposite side, is a low, somber, three-storied building of Munich gray granite. The structure possesses neither magnificence nor attraction, and a few tall poplar trees throwing their shadows across the portico scarcely lend charm to the picture. There is nothing particularly noticeable to the passer-by in this conventional pile of stone and mortar, with the exception, perhaps, of a curious-looking, double, reversible armchair, fixed into the wall at the right of the entrance about 4 feet above the ground and turning on a pivot, so that, if one side be directed toward the exterior of the building and facing the observer, the other must necessarily be directed inward.

The building is the foundling asylum of Bordeaux (L'Hospice des Enfants Assistés). The chair is the well-known "tour," or wheel, intended for the reception of abandoned infants and now, of necessity, fallen into disuse.

The asylum was founded in the year 1619 by a benevolent maiden lady named Tanzia. Over the door is inscribed the following words: "Mon père et ma mère m'ont abandonnés, mais le Seigneur a pris sain de moi" ("my father and mother have abandoned me, but the Saviour has taken me into his care").

Within, the stillness is almost audible. The sound of one's footsteps echo and reëcho along the vacant halls and dormitories, until, seeking out quiet nooks in the dark distance, they lie down to repose and whisper "silence." The asylum has two hundred and fifty beds, or cribs, each as neat and as clean as the active white-capped Sisters of Charity who move noiselessly among them.

The wheel, or chair, just described is a well-known institution in France, serving, until a comparatively few years ago, as a general receptacle for outcast children. An infant had but to be placed by anyone wishing to rid themselves of the little creature upon the chair, a turn given to the same, and immediately, as if by magic, the embarrassing object has disappeared within and another chair awaits the newcomer.

It is rare that so apparently insignificant an object has given rise to such violent discussion as has this chair, or "tour," in France. By some its existence is held as a never-failing incentive to illicit love; by others it is held that its abolishment would promote infanticide.

The immortal author of the famous "Memoir on the Integral Calculus," Jean le Rond d'Alembert, has given expression to the idea that deserted children always have existed and always will exist, that no law or revolution in morals can ever entirely prevent the abandonment of infants, that the evil has been common to all ages, and that we shall probably have to deplore it as long as society is governed by the same vices.

Of all European countries, France has established the greatest number of orphan asylums.

It is merely a vital illustration of the infallibility of cause and effect, of the inexorable laws of supply and demand.

When foundling asylums were first established, that weakness which we characterize as the worst of crimes was then tolerated—in fact, even tolerated by public opinion as part of the social law. Abandonment of offspring was justifiable, infanticide legal.

The revolutionists of 1790—the Dantons, the Marats, the Mirabeaus, the Robespierres, and other self-styled reformers of society and morals—were so eager for new life and blood—I speak figuratively—that, rather than discourage the birth of illegitimate children, a premium was put upon them. The best that may be said in support of these is that it was, beyond all doubt, a most excellent way to repopulate the nation with new Dantons, new Marats, new Mirabeaus, and new Robespierres.

The laws of France relating to the establishment and maintenance of foundling asylums are found in their proper classification under the head of "l'assistance publique," and are the decree of January, 1811, the instruction of February, 1823, the decree of March, 1852, and the law of May, 1869. These statutes state that "enfants assistés" shall include, in addition to orphans and foundlings proper, whatever infants may be brought by their parents, irrespective of their legitimacy.

The asylums in France are departmental, not communal, institutions. The State pays only the cost of inspection and superintendence. The department in which the asylum is situated is liable for the following expenses: (1) Temporary assistance to unmarried mothers, in order to prevent desertion; (2) allowances to the foster fathers in the country for board, (3) clothing; (4) expenses for physicians, burials, etc.

In 1889 the total cost throughout the Republic of maintaining the asylums was 11,300,171 francs, of which 2,570,171 francs were paid by the asylums themselves and 8,730,900 by the departments. This represented the support of 67,000 children.

During the same year there were 25,000 abandoned children in France. Of these, 585 were taken back by their parents—343 by the mothers, 166 by the fathers, and 76 by relatives. Only 219 were legitimate.

The professions of the women who abandoned their infants are represented as follows: Cooks, housemaids, servants, etc., 1,398; seamstresses, 917; women working by the day, 418.

The "assistance publique" of Paris is specially provided for by the law of 1849. The management consists of a director appointed by the minister of the interior, a number of under directors, visiting physicians, etc. The asylum receives, on an average, 4,200 children per year—one two-hundredth part of the entire birth rate of France. The expense of keeping a single child for 12 years is estimated at 1,500 francs.

It is understood that the children are kept until the age of 12, in order that they may be reclaimed by their parents, should these so desire. The "droit de recherche," that is to say, the right of reclaiming a child, is conceded to the parent upon the payment of a small fee. Should, however, the child remain unclaimed up to the age of 12 years, he is considered an orphan and is apprenticed by the authorities of the asylum to a peasant or artisan.

By the decree of January 19, 1811, 235 "wheels" were established throughout France. On November 1, 1837, the same were by law partially suppressed. In the year 1860 25 remained; in 1870 but 4 were in existence—1 in Paris, the 3 others in Marseilles, Rouen, and Evereux.

When the "wheel" at the asylum of Draguignan was suppressed in 1859, the number of foundlings sank from 103 to 14. When, a year later, the "tour" was suppressed in Antwerp, the number of infants left surreptitiously at the asylum fell off 25 per cent.

Let us now, by way of parenthesis, compare the foregoing figures with some of the rather limited statistics furnished us by the metropolis of the New World. When, in 1869, the Sisters of Charity established a foundling asylum in New York city, they received the first year almost a thousand infants under 3 weeks old. A crib was placed in the vestibule at night, and dishonored mothers found the plan a very convenient one.

To return again to the earlier history of these institutions: one of the saints who holds an exceptionally exalted rank in the French calendar is Vincent de Paul. This man, who had been a slave, came from the south of France early in the seventeenth century and, with the coöperation of five other Lazarists of his cloth, founded a society known as the Congregation of the Order of the Mission, the object of the same being to reclaim the ungodly inhabitants of the province of Châtillon-sur-Chalaronne. Afterward, in 1632, St. Vincent de Paul obtained the papal bull to reorganize the society, with himself at the head, and to establish a permanent mission in the city of Paris. The chief object or end of this society was to offer an asylum to illegitimate children, whose parents found this way of ridding themselves of them more agreeable than infanticide. They kept together for a century and a half, until the leaders of the Revolution thought proper to disperse them. But the Lazarists took new life under the Empire, and to-day are stronger than ever, with fourteen branches in the United States.

To-day, when a mother wishes to leave her child at an asylum, she is interrogated minutely by the clerk. Her name, age, occupation, residence are all recorded. If she desires to claim her child at some future time, a colored ivory necklace is hung about its neck—blue, if a male, and red, if a female. If she wishes to entirely abandon her infant, a string of white beads replaces either of the others. A silver medal, with the figure of St. Vincent de Paul on the front and a number on the reverse side, is attached to each necklace, and both remain upon the child until it attains the age of 12 years.

Perhaps no better illustration of the indifferent way in which children are consigned surreptitiously to foundling asylums in France is afforded than in the case of Jean Jacques Rousseau, the author of "The Social Contract" and "Emile," and whose moral influence on contemporary thought previous to the Revolution was greater than that of all his enemies and friends put together. Here was a man who, when he came a second time to establish himself in Paris, saw nothing ahead but disappointment and felt poverty and hunger tugging at his sleeve. He had little else offered him than some occasional music-copying at a beggarly compensation, and as uncertain as beggarly. But, as he sat and mused in his wretched garret in the Rue de Cordiers, he felt, as the most cynical often do, the necessity of a companion—some one whom he could caress in his loneliness; some one who could sympathize with, as well as love, him and take the place in his heart of the ambition and spirit that had, alas! gone out of it.

Inscrutable as it may seem, this incomparable genius found, like Hazlitt, that which he sought in an ignorant, if modest, kitchenmaid, who could neither retain in her memory the order of the months of the year nor tell the time of day by a clock. Their union was purely an arbitrary one. They sat on a box, ate their miserable suppers from the window sill, thought neither of the hour hands of the clock nor the days of the month, and were supremely happy; that was enough. And so time wore on, until a child was born. Rousseau at once made up his mind what to do with it. He took it secretly to the asylum for foundlings and left it there, partly because it was the usage of the country, partly because he thought that in doing so he was not only ridding himself of a possible annoyance, but was providing for his child a better home than he himself on his limited income could provide; and, thirdly, in thus acting he was enrolling himself as a citizen of Plato's republic. Three times were children born to him, and as many times did he thus dispose of them. Years afterward, when Rousseau craved the sweetness and delight of his children's embraces, the Maréchale de Luxembourg made efforts to discover the children of the great philosopher; but they had disappeared beyond the remotest hope of recovery, and Rousseau and his sons and daughters lived together in the world not knowing one another.

How many Rousseaus have there been in France? How many are there to-day? It is not difficult to determine; the statistics of every foundling asylum are at your disposal.

The "wheel" is a thing of the past; but that circumstance does not prevent mothers from leaving their babes on the doorstep, ringing the bell, and disappearing unnoticed into the night, confident that the parentage of the child can never be determined. The asylum—provided that none are voluntarily furnished—makes no inquiries regarding the mother; the State forbids inquiry as to the paternity. The Government neither recognizes breach of promise nor infidelity.

Soon the gloomy old asylum on the Quai de Palandate at Bordeaux will be no more. A score of laborers will be at work at its demolition, making way for a more necessary adjunct to liberal education, social economy, and scientific advancement—a railway station. Where once the wailing cries of many a little waif waked the slumber of the silent night; where once a long-drawn respiration, a gasp, and the absence of a mother's care ended a life just begun, the piercing shrieks and groans of steam whistles, the mournful and incessant rolling of iron wheels, the dismal clanking of brakes and couplings will leave but a memory of what has gone before.

But what a memory! If all that imagination has pictured, all that fancy has created, all that delirium has raved or nightmare painted in the brain of man; if all that romance has conceived, visions conjured, or reveries awakened; if all the sighs, the tears, and suffering; if all the grief, distress, and heartache—if these and every other human passion that sways thought and incites action were to unroll themselves before the mind, the volume that contained them all would be but a paragraph, a murmur, to the silent echoes now hastening to destruction within these four somber, grim walls.

The history of the foundling asylum at Bordeaux never has, never will, never can be, written.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, January 31, 1891.

THE UNITED KINGDOM IN 1889 AND 1890.

REPORT BY CONSUL-GENERAL NEW, OF LONDON.

The total value of imports into the United Kingdom in 1889 was $2,138,187,975 and exports $1,573,528,705, or together a total trade of $3,711,716,680. The imports and exports both exceed those of any previous year and were in the proportion of $98.12 per head of population of the Kingdom.

These totals do not include the value of gold and silver bullion, of which there were imported $135,497,195 and exported $125,608,150, nor the goods imported for transshipment, the value of which was $50,905,060.

IMPORTS.

The total amount of imports in 1889 was $2,138,187,975, an increase of $200,009,260 compared with the previous year. The principal articles of import were: Corn, value, $255,500,000, a slight decrease; raw cotton, $228,000,000, an increase of $28,000,000; silk manufactures, $59,000,000, an increase of $6,500,000; sugar, $112,500,000, an increase of $22,500,000; wood, $99,000,000, an increase of $26,500,000; wool, $143,000,000, an increase of $13,000,000; woolen manufactures, $49,000,000, an increase of $4,500,000; tea, $50,000,000, a slight decrease; metals, $108,500,000, a decrease of $6,500,000; flax, jute, and hemp, $60,000,000, an increase of $12,500,000; provisions (bacon, hams, beef, butter, cheese, etc.), $157,500,000, an increase of $21,000,000; and animals, $45,000,000, an increase of $15,500,000.

Table showing imports by articles in 1889.

Articles.		Quantity.	Value.
Animals:			
Oxen, bulls, cows, and calves	tons	555,222	$45,346,635
Sheep and lambs	do	677,918	5,075,660
Bacon and hams	cwts	4,484,108	48,976,460
Beef	do	1,648,220	16,970,960
Bones, except whalebone	tons	72,187	1,953,720
Brimstone	cwts	795,340	863,965
Bristles	pounds	3,334,698	2,354,645
Butter	cwts	1,927,842	51,223,180
Margarine	do	1,241,690	16,275,305
Candles of all sorts	do	45,865	490,610
Caoutchouc	do	236,310	13,088,845
Cheese	do	1,977,929	22,454,850
Chemical products and manufactures			7,074,980
China, porcelain, and earthenware	cwts	184,443	3,251,110
Clocks			2,272,780
Cocoa	pounds	26,509,791	4,095,995
Coffee	cwts	1,035,136	21,596,860
Confectionery and succades	do	69,561	825,640
Corn:			
Wheat	do	58,441,887	112,552,510
Barley	do	17,400,910	24,823,695

Table showing imports by articles in 1889—Continued.

Articles.	Quantity.	Value.
Corn—Continued.		
Oats ... cwts	15,990,567	$22,352,100
Maize ... do	36,192,325	42,901,610
Other kinds ... do	5,999,405	9,445,725
Flour—		
Wheat ... do	14,672,082	42,719,540
Other kinds ... do	532,593	1,133,075
Total	149,339,769	255,928,255
Cotton:		
Raw ... cwts	17,298,770	228,210,140
Manufactures	...	12,355,190
Drugs:		
Peruvian bark ... cwts	129,357	2,145,050
Opium ... pounds	492,115	1,492,180
Unenumerated	...	4,072,965
Dyeing or tanning stuffs:		
Cochineal, granilla, and dust ... cwts	8,186	253,745
Cutch and gambier ... tons	25,011	3,379,100
Extracts	...	2,514,595
Indigo ... cwts	90,238	8,888,085
Dyes from coal tar	...	3,046,180
Madder, madder root, garancin, and munjeet ... cwts	14,236	85,920
Sumac ... tons	12,514	702,585
Valonia ... do	31,376	2,273,150
Unenumerated ... cwts	1,351,408	3,775,965
Dyewoods ... tons	91,979	2,698,300
Eggs ... thousands	1,131,900	15,637,950
Feathers, ornamental ... pounds	796,537	4,115,035
Fish ... cwts	1,988,029	12,943,115
Flax and hemp:		
Flax, dressed and undressed ... do	1,587,422	14,189,000
Tow or codilla of flax and hemp ... do	318,979	1,834,625
Jute ... tons	1,904,857	16,633,885
Flowers, artificial	383,453	27,143,565
Fruits:	...	1,726,415
Currants ... cwts		
Raisins ... do	1,173,306	7,103,540
Oranges and lemons ... bushels	573,516	4,553,380
Hemp and other like substances (except jute), dressed and undressed ... do	5,847,521	8,658,175
Raw, exclusive of nuts ... do	5,791,202	10,609,220
Glass of all kinds ... cwts	1,798,129	8,910,965
Guano ... tons	28,604	998,915
Gum of all sorts ... cwts	327,316	5,371,090
Gutta-percha ... do	47,832	2,875,145
Hair:		
Goats' hair or wool ... pounds	20,991,573	4,971,980
Manufactures of hair and goats' wool	...	710,155
Hides (raw, dry, and wet) ... cwts	1,224,105	15,387,170
Hops ... do	197,334	3,555,470
Lace and articles thereof	...	5,163,095
Lard ... cwts	1,192,654	10,881,660
Leather ... pounds	104,892,898	33,369,220
Leather gloves ... pairs	18,902,904	8,527,580
Meat:		
Unenumerated, salted or fresh ... cwts	1,307,920	13,765,370
Preserved, other than salted ... do	641,705	8,171,115
Metals:		
Copper ore and regulus ... tons	250,567	21,173,095
Copper unwrought, part wrought, and old copper ... do	41,342	10,602,820
Iron ore ... do	4,031,265	15,123,025

Table showing imports by articles in 1889—Continued.

Articles.	Quantity.	Value.
Metals—Continued.		
Iron in bars ... tons	111,779	$5,169,870
Iron and steel, wrought or manufactured ... cwts	4,607,430	15,045,240
Lead, pig and sheet ... tons	145,203	9,376,435
Silver ore	...	11,143,955
Tin in blocks, ingots, bars, or slabs ... cwts	601,849	13,986,370
Zinc, crude, in cakes ... tons	56,420	5,374,715
Zinc manufactures ... cwts	384,070	2,083,675
Musical instruments	...	4,473,435
Nuts and kernels used for expressing oil therefrom ... tons	61,857	3,423,175
Oils:		
Fish ... do	20,956	2,201,800
Palm ... cwts	1,031,440	5,459,610
Cocoanut ... do	213,090	1,388,010
Olive ... tuns	22,882	4,087,475
Seed ... tons	17,039	2,308,455
Turpentine ... cwts	408,074	3,313,405
Oilseed cake ... tons	255,918	8,505,530
Onions, raw ... bushels	3,854,453	3,360,395
Painters' colors and pigments	...	5,158,605
Paper:		
For printing or writing ... cwts	294,097	1,984,440
Other, except hangings ... do	1,815,845	7,304,275
Petroleum, refined and unrefined ... gallons	102,881,256	12,944,735
Pork ... cwts	386,700	3,394,610
Potatoes ... do	1,864,426	3,680,195
Poultry, game, and rabbits	...	4,074,630
Pyrites of iron and copper ... tons	644,343	6,058,955
Rags and paper-making materials:		
Rags ... do	42,443	2,131,610
Esparto and other materials ... do	385,717	10,437,475
Rice ... cwts	6,585,779	13,448,000
Resin ... do	1,321,620	1,457,835
Saltpeter ... do	331,390	1,455,105
Cubic niter ... do	2,351,310	5,512,915
Seeds:		
Clover and grass ... do	296,360	3,039,260
Cotton ... tons	277,394	9,531,100
Flax ... quarters	2,269,495	22,851,015
Rape ... do	449,250	4,026,830
Silk:		
Knubs, or husks, and waste ... cwts	79,435	4,497,370
Raw ... pounds	3,122,911	10,962,740
Thrown ... do	607,651	2,553,670
Silk manufactures:		
Broad stuffs	...	28,869,570
Ribbons	...	15,711,495
Other manufactures	...	14,364,630
Total	...	58,945,695
Skins and furs:		
Goat, undressed ... number	6,981,290	3,579,560
Seal ... do	738,028	3,372,335
Sheep and lamb, undressed ... do	11,302,380	6,218,960
Furs of all sorts ... do	27,401,543	5,115,875
Spices:		
Cinnamon ... pounds	1,608,440	254,935
Pepper ... do	29,787,328	4,282,460
All other sorts ... do	19,953,132	2,585,060

Table showing imports by articles in 1889—Continued.

Articles.	Quantity.	Value.
Spirits:		
Rum ....proof gallons..	4,087,109	$1,700,130
Brandy ....do....	2,858,774	6,580,685
Other foreign and colonial spirits....do....	3,632,846	1,993,425
Total....do....	10,578,729	10,274,240
Sugar:		
Refined, and sugar candy....cwts..	8,978,260	44,196,610
Unrefined....do....	17,550,147	68,072,595
Molasses....do....	391,475	718,310
Tallow and stearine....do....	1,244,031	8,229,005
Tea....pounds...	222,147,661	49,939,835
Teeth (elephant, sea cow, and sea horse)....cwts..	12,114	2,869,100
Tobacco:		
Manufactured (cigars and snuff)....pounds..	4,214,123	8,608,875
Unmanufactured....do....	74,978,458	10,843,545
Toys....	....	3,574,140
Watches....	....	3,455,030
Wine....gallons...	15,900,749	29,527,365
Wood and timber:		
Hewn....loads...	2,392,223	28,183,820
Sawn or split....do....	5,319,326	65,719,405
Staves....do....	170,086	3,470,490
Mahogany....tons..	39,859	1,772,505
Wool (sheep, lamb, alpaca, and the llama tribe)....pounds..	700,903,057	143,073,685
Woolen rugs....tons..	31,335	3,347,190
Woolen manufactures....	....	48,920,340
Woolen and worsted yarns:		
Berlin wool and fancy yarns used for fancy purposes....pounds...	1,244,985	1,096,435
Yarn for weaving....do....	19,051,354	11,020,780
Yeast, dried....cwts...	261,464	3,616,600
All other articles....	....	172,551,240
Grand total....	....	2,138,187,975

EXPORTS.

The total value of exports was $1,573,528,705, an increase of $84,102,525 compared with 1888.

The value of British and Irish produce exported was $1,240,241,285, or 79 per cent. of the total exports, an increase of $71,028,250 compared with the previous year.

Foreign and colonial produce exported was valued at $333,287,420, an increase of $13,074,275.

The principal articles of British and Irish produce exported were: Apparel and slops, $25,000,000, an increase of $1,500,000; coals, etc., $73,500,000, an increase of $17,000,000; cotton yarn, $58,500,000, a slight increase; cotton manufactures, $293,500,000, a decrease of $8,000,000; hardware and cutlery, $15,000,000, a slight decrease; leather, wrought and unwrought, $20,000,000; linen manufactures, $28,500,000, an increase of $1,000,000; jute manufactures, $13,500,000, an increase of $3,500,000; machinery, $76,000,000, an increase of $12,000,000; iron and steel, $146,000,000, an increase of $13,500,000; silk manufactures, $12,500,000, a slight decrease; woolen and worsted yarn, $21,500,000, an increase of $1,500,000; woolen and worsted manufactures, $106,500,000, an increase of $7,000,000.

The principal articles of foreign and colonial produce exported were: Coffee, $13,000,000; raw cotton, $29,000,000; rice, $7,000,000; tea, $8,500,000; and wool, $77,000,000. Wool formed nearly 25 per cent. of the total exports of foreign and colonial produce.

Table showing exports by articles in 1889.

Articles.	Quantity.	Value.
British and Irish produce.		
Alkali … cwts	6,032,200	$7,864,610
Animals (horses) … number	14,266	4,723,955
Apparel and slops		24,892,565
Arms and ammunition:		
Firearms (small) … number	204,109	1,433,565
Gunpowder … pounds	10,679,600	1,368,500
All other kinds		5,858,165
Bags (empty) … dozens	3,110,841	3,923,540
Beer and ale … barrels	495,926	9,289,730
Biscuit and bread … cwts	206,791	2,984,110
Bleaching materials … do	1,524,600	2,816,565
Books, printed … do	155,123	6,474,835
Butter … do	25,191	727,160
Candles of all sorts … pounds	12,669,100	1,156,985
Caoutchouc, manufactures of		5,627,775
Carriages, railway		9,876,675
Cement … cwts	12,633,200	6,158,245
Cheese … do	12,852	245,840
Chemical products and dyestuffs		13,875,505
Clocks and watches		696,750
Coals, etc.:		
Coals, cinders, and fuel … tons	28,956,445	73,999,950
Products of coal, except dyes		5,559,125
Cordage and twine … cwts	192,860	2,450,330
Corn:		
Wheat … do	121,109	237,995
Wheat flour … do	215,203	580,470
Other kinds		1,385,410
Cotton yarn … pounds	252,435,800	58,558,745
Cotton manufactures:		
Piece goods—		
White or plain … yards	3,465,464,300	161,739,765
Printed, checked, or dyed … do	1,535,687,400	95,178,335
Mixed materials … do	87,400	23,255
Stockings and socks … dozen pairs	1,443,701	1,973,215
Thread—		
For sewing … pounds	17,291,000	13,463,005
All other kinds		21,580,655
Total		293,967,230
Earthen and china ware		11,433,440
Fish:		
Herrings … barrels	1,151,450	6,189,185
Other sorts		2,644,010
Furniture, cabinet, and upholstery wares		4,280,100
Glass:		
Plate … square feet	3,896,673	1,215,635
Flint … cwts	121,166	1,375,295
Common bottles … do	982,388	2,323,710
Other sorts … do	216,983	822,035

Table showing exports by articles in 1889—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Continued.		
Haberdashery and millinery		$11,260,705
Hardware and cutlery		14,945,940
Hats of all sorts ... dozens	1,359,772	6,637,765
Implements and tools of industry		6,265,465
Leather:		
Unwrought ... cwts	143,099	6,569,150
Wrought—		
Boots and shoes ... dozen pairs	665,909	8,946,710
Other sorts		2,069,370
Saddlery and harness		2,872,445
Linen and jute yarn:		
Linen yarn ... pounds	13,044,700	4,246,315
Jute yarn ... do	34,179,200	2,048,255
Linen and jute manufactures:		
Linen manufactures—		
White or plain ... yards	164,590,200	19,085,065
Printed, checked, or dyed ... do	12,422,200	1,632,095
Sailcloth and sails ... do	3,617,800	832,740
Thread for sewing ... pounds	2,800,200	1,825,400
Other sorts		5,512,025
Total		8,887,325
Jute manufactures ... yards	265,084,700	13,651,720
Machinery:		
Steam-engines		13,135,295
Other sorts		57,234,255
Manure		10,250,850
Medicines		4,837,075
Metals:		
Iron—		
Old, for remanufacture ... tons	146,719	2,160,875
Pig and puddled ... do	1,160,371	14,941,620
Bar, angle, bolt, and rod ... do	252,382	8,122,880
Railroad, of all sorts ... do	1,060,892	26,654,290
Wire ... do	55,896	4,161,145
Hoops, sheets, and boiler plates ... do	385,743	20,663,335
Tinned plates ... do	430,150	30,150,025
Cast or wrought, and all other manufactures ... do	463,526	27,157,110
Steel—		
Unwrought ... do	149,882	8,495,050
Manufactures of steel or of steel and iron combined ... do	21,141	3,122,315
Total ... do	4,186,182	145,710,645
Copper—		
Unwrought (ingots, cakes, or slabs) ... cwts	650,713	7,684,585
Wrought or partly wrought—		
Mixed or yellow metal ... do	306,430	4,087,190
Other sorts ... do	300,300	4,662,315
Brass of all sorts ... do	107,663	2,430,245
Lead (pig, sheet, and pipe) ... tons	52,040	3,772,150
Tin, unwrought ... cwts	108,583	[illegible]
Zinc, wrought and unwrought ... do	132,862	[illegible]
Musical instruments		[illegible]
Oil and other floor cloth ... yards	17,135,200	[illegible]
Oilseed ... tons	68,629	[illegible]
Painters' colors		[illegible]
Paper, other than hangings ... cwts	928,837	8,010,575
Pickles, vinegar, and sauces		6,536,055

Table showing exports by articles in 1889—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Continued.		
Pictures ... number.	15,523	$1,444,530
Plate and plated ware		2,191,160
Provisions, not otherwise described		4,383,510
Rags and materials for paper ... tons	58,860	2,367,270
Salt ... do	666,757	2,692,570
Silk (thrown, twist, and yarn)		2,549,095
Silk manufactures:		
Broad piece goods ... yards	9,618,671	7,371,830
Other kinds		5,157,135
Total		12,528,965
Skins and furs:		
British		2,210,520
Foreign (British dressed) ... number	1,737,237	2,641,880
Soap ... cwts	493,392	2,517,325
Spirits ... gallons	3,431,320	6,012,795
Stationery, other than paper		4,828,605
Sugar, refined ... cwts	755,015	3,045,575
Telegraph wire		5,192,700
Umbrellas and parasols		3,065,905
Wool, sheep and lambs' ... pounds	21,768,400	4,853,750
Woolen and worsted yarn ... do	45,360,000	21,707,570
Woolen and worsted manufactures:		
Cloths, coatings, etc., unmixed and mixed ... yards	62,767,000	53,020,245
Flannels, blankets, blanketing, and baizes ... do	23,379,400	5,674,660
Stuffs, mixed and unmixed ... do	178,940,700	32,733,180
Carpets and druggets ... do	12,090,000	6,357,530
All other sorts		8,837,845
Total		106,624,460
Other articles		65,820,380
Total British and Irish produce		1,240,241,285
Foreign and colonial produce.		
Bacon and hams ... cwts	277,255	2,348,615
Caoutchouc ... do	130,506	7,057,770
Chemical manufactures and products		1,664,170
Cocoa ... pounds	8,277,500	1,299,475
Coffee ... cwts	676,716	13,349,205
Corn:		
Wheat ... do	348,728	718,940
Wheat meal or flour ... do	172,234	565,875
Cotton:		
Raw ... cwts	2,478,592	29,358,000
Manufactures—		
Piece goods ... yards	27,214,850	2,407,415
Other articles		499,595
Drugs:		
Peruvian bark ... cwts	120,591	1,788,400
Opium ... pounds	400,738	1,146,650
Unenumerated		1,[illegible]
Dyeing or tanning stuffs:		
Cochineal, granilla, and dust ... cwts	7,157	186,600
Cutch and gambier ... tons	10,449	1,461,470
Indigo ... cwts	58,774	5,852,[illegible]
Madder, madder root, garancin, and munjeet ... do	2,305	15,475
Feathers, ornamental ... pounds	383,526	2,211,095
Fish, cured or salted ... cwts	293,370	2,367,680

Table showing exports by articles in 1889—Continued.

Articles.		Quantity.	Value.
Foreign and colonial produce—Continued.			
Flax and hemp:			
Flax, dressed and undressed	cwts	79,476	$691,220
Tow or codilla of flax and hemp	do	25,219	147,520
Hemp and other like substances (except jute), dressed and undressed	do	715,188	7,150,675
Jute	tons	115,630	8,726,335
Fruits:			
Currants	cwts	78,579	386,970
Raisins	do	84,899	626,180
Oranges and lemons	bushels	543,779	744,370
Guano	tons	4,122	155,890
Gum of all sorts	cwts	158,572	3,052,825
Hair, manufactures of, and goats' wool		....	6,585
Hides (raw, dry, and wet)	cwts	419,469	6,014,520
Leather	pounds	19,204,998	7,662,595
Metals:			
Copper (unwrought, part wrought, and old copper)	tons	14,557	3,578,805
Iron in bars	do	75,366	2,821,325
Iron and steel manufactures, unenumerated	cwts	800,493	2,852,135
Tin in blocks, ingots, bars, or slabs	do	349,973	8,145,695
Zinc, crude, in cakes	tons	1,211	115,650
Nuts and kernels used for expressing oil	do	41,485	2,273,560
Oil:			
Palm	cwts	616,945	3,276,655
Cocoanut	do	82,733	544,135
Olive	tuns	3,691	731,465
Quicksilver	pounds	4,317,852	2,426,280
Rice	cwts	3,020,225	7,046,275
Saltpeter	do	47,206	207,710
Cubic niter	do	74,854	182,300
Seeds:			
Flax	quarts	241,213	2,461,105
Rape	do	62,768	684,010
Unenumerated, used for obtaining oil	do	113,881	1,102,895
Silk:			
Raw	pounds	394,080	1,317,515
Thrown	do	30,746	114,670
Manufactures		....	4,813,010
Skins and furs:			
Goat, undressed	number	7,452,504	3,101,715
Seal	do	33,406	304,235
Furs of all sorts	do	18,070,041	4,965,460
Spices:			
Cinnamon	pounds	1,283,548	205,895
Pepper	do	21,958,306	3,170,335
Other sorts	cwts	134,273	1,890,830
Spirits:			
Rum	proof gallons	1,025,627	866,595
Brandy	do	113,276	326,695
Geneva and other foreign and colonial spirits	gallons	168,793	1,204,145
Sugar:			
Refined, and candy	cwts	168,591	839,660
Unrefined	do	736,371	3,021,030
Molasses	do	174,318	345,465
Tallow and stearine	do	301,311	1,893,245
Tea	pounds	36,064,040	8,711,025
Teeth (elephant, sea cow, and sea horse)	cwts	7,671	1,888,500
Tobacco:			
Unmanufactured	pounds	5,369,216	812,035
Manufactured (cigars)	do	304,137	841,105
Other sorts, including snuff	do	1,231,579	545,710

Table showing exports by articles in 1889—Continued.

Articles.	Quantity.	Value.
Foreign and colonial produce—Continued.		
Wine .... gallons...	1,334,663	$3,393,535
Wool (sheep, lamb, alpaca, and llama) .... pounds...	363,647,360	77,142,150
Woolen manufactures........	....	4,051,660
All other articles........	....	57,953,575
Total foreign and colonial produce........	....	333,287,430

IMPORTS AND EXPORTS BY COUNTRIES.

Table showing the value of imports and exports from and to the various foreign countries and British possessions.

Countries.	Imports.	Exports.
Foreign:		
Argentine Republic........	$10,080,910	$54,488,450
Austrian territories........	11,434,170	6,960,450
Belgium........	88,374,385	68,047,875
Brazil........	25,353,140	33,751,745
Central America........	5,908,515	5,224,505
Chile........	16,322,865	16,149,815
China........	30,577,955	25,944,330
Demark proper and Iceland........	39,229,385	14,070,395
Danish West Indies........	25,145	417,320
Ecuador........	362,150	1,389,205
Egypt........	43,103,010	15,053,185
France........	228,901,385	110,506,110
Algeria........	3,290,410	1,458,825
Possessions in Senegambia........	72,575	528,395
Possessions in India........	9,675	4,450
Germany........	135,524,160	155,743,655
Greece........	9,321,485	4,656,265
Haiti and San Domingo........	235,615	1,313,450
Holland........	133,396,080	80,918,930
Java and other possessions in the Indian Sea........	11,070,870	8,940,320
Italy........	16,150,655	40,101,685
Japan........	4,886,030	20,276,910
Mexico........	2,329,970	8,105,530
Morocco........	4,780,095	3,586,465
New Granada (Republic of Colombia)........	1,226,450	6,138,000
Peru........	6,469,885	5,368,445
Portugal........	15,525,380	14,959,893
Azores and Madeira........	737,965	1,107,160
Roumania........	16,023,880	6,544,110
Russia—		
Northern ports........	68,948,370	36,430,505
Southern ports........	66,824,080	6,785,775
Spain........	57,794,285	24,539,470
Canary Islands........	615,955	2,180,[illegible]
Fernando Po........	32,135	41,470
West India Islands........	522,435	13,835,775
Philippine Islands........	11,658,930	7,001,020
Sweden and Norway........	63,522,800	31,963,400
Turkey........	26,326,865	33,723,105
United States of America........	477,307,375	219,394,670
Uruguay........	2,252,655	12,148,315
Venezuela........	1,423,130	4,012,595

Table showing the value of imports and exports, etc.—Continued.

Countries.	Imports.	Exports.
Foreign—Continued.		
Western coast of Africa	$5,079,845	$7,434,815
Other countries	8,732,365	8,941,660
Total	1,651,857,620	1,121,379,750
British possessions:		
Australia	134,022,960	129,568,245
British Honduras	1,333,615	597,830
British India	180,996,020	161,685,675
Cape of Good Hope and Natal	30,589,250	48,924,410
Ceylon	14,111,785	4,068,260
Channel Islands	4,943,340	4,020,955
Gibraltar	230,630	4,220,595
Gold Coast	3,713,770	2,590,380
Hongkong	5,645,950	11,890,985
Malta	694,810	5,053,780
Mauritius	2,107,685	1,650,800
North American colonies	60,956,850	47,035,370
Straits Settlements	27,085,170	12,602,345
West India Islands and Guinea	16,902,535	16,799,795
West Africa settlements	919,145	1,703,500
Other possessions	2,176,840	1,936,030
Total	486,330,355	452,418,955
Grand total	2,138,187,975	1,573,528,705

TRADE WITH THE UNITED STATES.

The total value of the imports from the United States in 1889 was $477,307,375 and of exports thereto $219,394,670, leaving a balance of trade in favor of the United States of $257,912,705.

The imports from the United States were larger than in any year since 1883 and showed an increase on 1888 of $78,492,285. The articles giving the largest increases were: Animals, $15,000,000; bacon and hams, $7,000,000; beef, $5,000,000; corn, $20,500,000; raw cotton, $12,000,000; leather, $2,500,000; tobacco, $6,250,000; and wood, $3,500,000. The articles showing a decrease of any importance were: Copper regulus, $1,000,000; wheat meal and flour, $5,500,000; and petroleum, $585,000.

The exports to the United States were larger than in any of the last 10 years and showed an increase, compared with 1888, of $13,338,000.

British and Irish produce amounted to $151,469,710, or 69 per cent. of the total exports, and showed an increase, compared with the previous year, of $6,984,410. There was an increase in the following articles, viz: Cottons, $700,000; jute manufactures, $1,350,000; linens, $850,000; machinery, $1,500,000; iron, $1,200,000; and woolens, $2,700,000.

Foreign and colonial produce exported amounted to $67,924,960, an increase of $6,354,195 compared with 1888. The chief articles showing an increase were: Cotton, $450,000; indigo, $500,000; hair, $650,000; hemp, $1,500,000; flaxseed, $1,250,000; skins and furs, $550,000; wool, $2,250,000; and woolen manufactures, $750,000. Raw hides showed a decrease of $650,000; tin, $1,000,000; and sugar, $1,500,000.

Table showing imports from the United States in 1889.

Articles.	Quantity.	Value.
Animals, living:		
Oxen and bulls ... number	294,124	$28,066,480
Sheep and lambs ... do	18,690	151,440
Horses ... do	236	68,535
Bacon and hams ... cwts	3,429,733	35,232,180
Beef:		
Fresh ... do	1,275,948	14,132,580
Salted ... do	231,476	1,737,060
Books ... do	7,362	238,750
Butter ... do	110,298	2,246,110
Margarine (butterine) ... do	833	11,335
Caoutchouc ... do	9,927	254,060
Manufactures ... pounds	416,358	251,985
Cheese ... cwts	825,670	9,478,375
Clocks and parts thereof ...	...	444,500
Coffee, raw ... cwts	38,107	776,825
Copper:		
Ore ... tons	2,828	280,010
Regulus ... do	43,005	6,042,470
Unwrought and part wrought ... do	4,125	1,085,340
Corn:		
Wheat ... cwts	17,009,[illegible]	34,065,875
Barley ... do	358,[illegible]	804,455
Oats ... do	148,316	216,310
Peas ... do	347,700	566,725
Maize, or Indian corn ... do	22,501,135	26,627,410
Wheat meal and flour ... do	10,043,720	28,[illegible],315
Oatmeal ... do	168,616	428,240
Cotton:		
Raw ... do	12,712,606	167,726,355
Manufactures ...	...	1,350,865
Drugs, not otherwise enumerated ...	...	624,[illegible]
Dyestuffs (extracts) ...	...	[illegible]
Farinaceous substances, not otherwise enumerated ...	...	[illegible]
Fish ... cwts	463,062	4,700,335
Fruit, raw:		
Apples ... bushels	1,285,570	1,7[illegible],350
Unenumerated ... do	7,145	20,750
Hair, not otherwise enumerated ...	...	[illegible],295
Hemp ... cwts	4,419	48,005
Hides, raw ... do	25,[illegible]	270,075
Hops ... do	77,529	1,260,575
Iron and steel manufactures:		
Sewing machines ...	...	[illegible]
Unenumerated ... cwts	136,[illegible]	[illegible]
Lard ... do	1,150,195	10,470,725
Lead, pig or sheet ... tons	4,588	[illegible]
Leather ... pounds	40,484,[illegible]	11,048,325
Manures:		
Phosphate of lime and rock ... tons	122,554	[illegible]
Unenumerated ... do	[illegible]	2,735
Meat, unenumerated:		
Salted or fresh ... cwts	13,720	140,575
Preserved otherwise than by salting ... do	411,077	4,656,195
Musical instruments ...	...	[illegible]
Mutton, fresh ... cwts	[illegible]	15,465
Naphtha, wood, not potable ... gallons	26,448	[illegible],100
Oil:		
Sperm ... tuns	622	148,625
Train or blubber ... do	3,057	328,220

Table showing imports from the United States in 1889—Continued.

Articles.		Quantity.	Value.
Oil—Continued.			
Animal	cwts	91,155	$922,856
Turpentine	do	387,281	3,088,850
Chemical, essential, or perfumed	pounds	54,986	90,710
Oilseed cake	tons	194,625	6,462,970
Paraffine	cwts	306,338	1,806,805
Perfumery	pounds	801,351	154,350
Petroleum	gallons	70,739,663	9,664,250
Pork, salted	cwts	192,021	1,426,505
Resin	do	1,317,500	1,449,895
Seeds, clover and grass	do	74,210	803,935
Silver ore			1,086,940
Skins and furs of all sorts			3,830,440
Sugar:			
Refined, and candy	cwts	10,207	49,950
Unrefined	do	1,667	9,200
Molasses	do	325,522	500,905
Tallow and stearine	do	420,880	2,679,70[illegible]
Tar	barrels	9,478	28,880
Tobacco:			
Unmanufactured	pounds	64,415,213	8,862,855
Manufactured	do	2,715,782	6,019,060
Vegetables, raw			149,620
Watches and parts thereof			144,520
Wax	cwts	3,514	89,355
Wood and timber:			
Hewn	loads	148,733	3,173,460
Sawn or split	do	350,126	6,107,425
Staves	do	25,156	821,600
Furniture woods and hard woods	tons	42,815	1,842,360
House frames, settings, and joiners' work			774,830
Wool, sheep or lambs'	pounds	849,880	174,390
All other articles			12,744,365
Total			477,307,375

Table showing increase or decrease in imports from the United States in 1889 as compared with 1888.

Articles.		Quantity.		Value.	
		Increase	Decrease.	Increase.	Decrease.
Animals, living:					
Oxen and bulls	number	151,259		$14,760,025	
Sheep and lambs	do	17,847		171,660	
Horses	do	91		24,585	
Bacon and hams	cwts	906,593		7,350,145	
Beef:					
Fresh	do	491,519		5,065,670	
Salted	do	37,697		100,675	
Books	do		672		$16,815
Butter	do	86,664		1,771,085	
Margarine	do	110		1,010	
Caoutchouc	do	1,013			113,045
Manufactures of	pounds	41,978		47,035	
Cheese	cwts	13,340			52,440
Clocks and parts thereof					14,115
Coffee, raw	cwts	1,5[illegible]		53,445	

Table showing increase or decrease in imports from the United States in 1889, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Copper:				
Ore……tons…	122	……	……	$20,360
Regulus……do….	7,086	……	……	1,155,520
Unwrought and part wrought……do….	……	823	……	881,285
Corn:				
Wheat……cwts…	2,365,464	……	$5,680,435	……
Barley……do….	336,216	……	692,765	……
Oats……do….	148,845	……	216,210	……
Peas……do….	171,309	……	294,540	……
Maize, or Indian corn……do….	12,663,590	……	13,411,620	……
Wheat meal and flour……do….	……	2,514,920	……	5,877,745
Oatmeal……do….	127,105	……	319,645	……
Cotton:				
Raw……do….	671,786	……	12,092,420	……
Manufactures……	……	……	31,765	……
Drugs not otherwise enumerated……	……	……	11,345	……
Dyestuffs (extracts)……	……	……	……	87,255
Farinaceous substances not otherwise enumerated……	……	……	……	40,830
Fish……cwts…	134,083	……	1,938,635	……
Fruit, raw:				
Apples……bushels	……	363,320	……	589,415
Unenumerated……do….	……	8,088	……	7,425
Hair not otherwise enumerated……	……	……	126,220	……
Hemp……cwts…	……	18,938	……	135,290
Hides, raw……do….	17,034	……	183,405	……
Hops……	……	11,766	……	370,900
Iron and steel manufactures:				
Sewing machines……	……	……	126,085	……
Unenumerated……cwts…	35,802	……	622,575	……
Lard……do….	316,546	……	1,931,975	……
Lead, pig or sheet……tons…	……	1,581	……	117,155
Leather……pounds…	12,046,565	……	2,445,635	……
Manures:				
Phosphate of lime and rock……tons…	11,185	……	316,180	……
Unenumerated……do….	1,171	……	……	835
Meat, unenumerated:				
Salted or fresh……cwts…	10,342	……	108,225	……
Preserved otherwise than by salting……do….	147,859	……	1,505,630	……
Musical instruments……	……	……	75,795	……
Mutton, fresh……cwts…	……	5,548	……	34,670
Naphtha, wood, not potable……gallons…	……	46,573	……	41,515
Oil:				
Sperm……tuns…	451	……	88,525	……
Train or blubber……do….	2,350	……	263,265	……
Animal……cwts…	……	14,088	……	77,560
Turpentine……do….	39,373	……	664,410	……
Chemical, essential, or perfumed……pounds…	……	8,712	……	56,880
Oilseed cake……tons…	6,734	……	541,970	……
Paraffine……cwts…	……	34,103	……	179,325
Perfumery……pounds…	7,129	……	……	10,350
Petroleum……gallons…	……	1,477,907	……	584,070
Pork, salted……cwts…	4,222	……	232,350	……
Resin……do….	12,322	……	115,825	……
Seeds, clover and grass……do….	8,684	……	63,600	……
Silver ore……	……	……	537,470	……
Skins and furs of all sorts……	……	……	1,004,375	……
Sugar:				
Refined, and candy……cwts…	……	31,398	……	144,760

Table showing increase or decrease in imports from the United States in 1889, etc.—Continued

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Sugar—Continued.				
Unrefined ... cwts		28,940		$87,885
Molasses ... do	46,840		$173,360	
Tallow and stearine ... do	109,950		741,640	
Tar ... barrels		2,207	2,015	
Tobacco:				
Unmanufactured ... pounds	27,481,467		3,362,580	
Manufactured ... do	995,760		2,999,230	
Vegetables, raw				69,660
Watches and parts thereof				124,205
Wax ... cwts	1,511		36,885	
Wood and timber:				
Hewn ... loads	46,801		1,057,720	
Sawn or split ... do	115,012		2,434,115	
Staves ... do	4,010		125,840	
Furniture and hard woods ... tons	7,754		356,190	
House frames, fittings, and joiners' work			188,885	
Wool, sheep or lambs' ... pounds	392,992		101,545	
All other articles			2,812,030	
Net increase			78,492,285	

Table showing exports to the United States in 1889.

Articles.	Quantity.	Value.
British and Irish produce.		
Alkali ... cwts	3,394,300	$4,197,411
Animals:		
Horses ... number	1,113	354,545
Unenumerated		66,555
Apparel and haberdashery		1,981,610
Arms, ammunition, and military stores		420,855
Bags and sacks, empty ... dozens	151,992	168,760
Beer and ale ... barrels	42,011	898,300
Bleaching materials ... cwts	860,400	1,571,955
Books, printed ... do	44,316	1,802,585
Caoutchouc, manufactures of		281,530
Cement ... tons	196,515	1,929,810
Chemical products and preparations, including dyestuffs		2,245,790
Clay and manufactures thereof		410,355
Clocks, watches, and parts thereof		166,615
Coal:		
Cinders and fuel ... tons	80,755	338,705
Products of, etc., including naphtha, paraffine oil, and petroleum		66,060
Cordage and twine ... cwts	5,382	55,235
Cotton yarn ... pounds	881,600	393,810
Cottons:		
Entered by the yard ... yards	49,128,600	5,078,440
Entered at value		6,454,660
Earthen and china ware		4,372,115
Flax and hemp, dressed and undressed ... cwts	33,178	924,795
Furniture, cabinet, and upholstery wares		243,520
Glass manufactures		935,130
Hardware and cutlery, unenumerated		2,002,370
Hats of all sorts ... dozens	29,336	254,225
Hides, raw ... cwts	6,872	59,775

Table showing exports to the United States in 1889—Continued.

Articles.	Quantity	Value.
British and Irish produce—Continued.		
Implements and tools		$164,980
Instruments and apparatus (surgical, anatomical, and scientific)		170,740
Jute:		
Yarn ... pounds	13,994,500	708,825
Manufactures (piece goods) ... yards	139,479,900	6,668,000
Leather, wrought and unwrought		942,175
Linen yarn ... pounds	683,900	90,165
Linens:		
Entered by the yard ... yards	94,222,600	10,525,520
Entered at value		3,971,550
Machinery and millwork		4,452,105
Manure		309,445
Medicines, drugs, and medicinal preparations		252,665
Metals:		
Iron, wrought and unwrought ... tons	578,941	30,936,430
Copper, wrought and unwrought ... cwts	11,375	159,740
Tin, unwrought ... do	5,056	121,605
Unenumerated, and manufactures thereof		447,180
Oil and floor cloth ... square yards	1,460,600	416,770
Painters' colors and materials		735,815
Paper of all sorts ... cwts	24,429	373,675
Pickles, vinegar, sauces, etc		1,180,650
Prints, engravings, drawings, etc		201,035
Provisions, including meat		63,270
Rags and other materials for making paper ... tons	52,199	2,209,610
Salt ... do	119,[illegible]7	654,435
Seeds of all sorts ... cwts	11,776	99,605
Silk:		
Thrown, twist, or yarn		715,080
Manufactures		5,777,065
Skins and furs of all sorts		3,480,465
Soap ... cwts	11,[illegible]5	246,900
Stationery, other than paper		410,135
Stones and slates		434,170
Sugar, refined, and candy ... cwts	3[illegible]3	1,310
Telegraph wires and apparatus		27,470
Wool, sheep and lambs' ... pounds	12,307,200	2,350,520
Woolen and worsted yarn ... do	1,[illegible],200	575,385
Woolens:		
Entered by the yard ... yards	64,500,400	24,195,170
Entered at value		1,730,280
Yarn (alpaca, mohair, and other sorts) ... pounds	406,400	268,510
All other articles		7,448,640
Total		151,469,710
Foreign and colonial produce.		
Animals (horses) ... number	483	140,885
Art, works of, including pictures		80,845
Bristles ... pounds	120,720	152,675
Caoutchouc ... cwts	46,017	2,313,800
Chemical manufactures and products, unenumerated		580,270
China and earthen ware ... cwts	6,513	1[illegible]4,545
Cocoa ... pounds	830,950	1[illegible],050
Coffee ... cwts	20,585	434,735
Cordage, twine, and cable yarn		37,475
Cotton:		
Raw ... cwts	56,364	965,350
Manufactures		919,600

Table showing exports to the United States in 1889—Continued.

Articles.	Quantity.	Value.
Foreign and colonial produce—Continued.		
Drugs:		
Peruvian bark...cwts	20,071	$213,545
Opium...pounds	140,447	398,195
Unenumerated	....	560,190
Dyeing and tanning stuffs:		
Cochineal...cwts	2,296	56,505
Cutch and gambier...tons	3,504	530,650
Indigo...cwts	14,900	1,501,920
Unenumerated...do	36,528	416,575
Farinaceous substances	....	186,660
Feathers:		
Bed...cwts	6,263	166,980
Ornamental...pounds	83,506	608,055
Fish, cured or salted...cwts	84,667	385,805
Flax, dressed, undressed, and tow or codilla of flax...do	83,526	679,040
Fruit:		
Almonds...do	14,146	235,075
Currants...do	7,891	42,460
Figs and fig cake...do	13,822	85,270
Nuts used as fruit	....	117,465
Oranges and lemons...bushels	251,631	341,515
Raisins...cwts	24,159	172,805
Unenumerated—		
Raw...bushels	91,364	229,605
Dried...cwts	76,662	285,245
Glass of all kinds...do	22,259	164,835
Gum:		
Lac, seed, shell, stick, and dye...do	36,136	655,830
All other sorts...do	22,738	453,570
Hair:		
Goats' hair or wool...pounds	1,938,656	451,240
All other sorts	....	1,517,245
Hemp, dressed, undressed, and tow or codilla of hemp...cwts	443,131	4,485,550
Hides, raw...do	76,221	1,077,545
Hops...do	4,707	82,235
Ivory (teeth of elephants, sea cows, etc.)...do	1,829	538,715
Jute...do	2,978	213,035
Lace	....	426,720
Leather, dressed and undressed...pounds	6,019,033	2,562,615
Linen manufactures	....	87,285
Metals:		
Iron bars, etc...tons	37,274	1,409,995
Steel, unwrought...do	5,945	209,830
Iron and steel manufactures, unenumerated...cwts	47,877	201,165
Lead, pig or sheet...tons	419	27,800
Tin in blocks, ingots, bars, or slabs...cwts	227,748	5,295,260
Precious stones, unset	....	918,260
Quicksilver...pounds	597,535	333,750
Rags and other materials for making paper...tons	44,631	2,050,765
Rags, woolen, applicable to other uses than manure, torn up or not...do	28	2,420
Rice...cwts	126,358	283,635
Seeds:		
Flax...quarters	182,157	1,865,815
Unenumerated—		
For expressing oil therefrom...do	21,027	207,845
Not for oil...cwts	42,[illegible]75	131,080
Silk manufactures	....	399,240
Skins:		
Goat, undressed...number	6,317,439	2,545,685
Sheep...do	1,116,881	382,730
Skins and furs of all sorts...do	8,337,663	970,260

Table showing exports to the United States in 1889—Continued.

Articles.	Quantity.	Value.
Foreign and colonial produce—Continued.		
Spices of all sorts .... pounds	11,280,394	$3,667,420
Spirits, not sweetened, of all sorts .... proof gallons	50,972	73,780
Sponges .... pounds	79,458	121,350
Sugar, unrefined .... cwts	195,404	770,030
Tea .... pounds	3,563,052	774,350
Toys	....	72,105
Vegetables, unenumerated	....	150,655
Wine .... gallons	22,813	81,075
Wood (furniture, veneers, and hard wood) .... tons	1,912	134,080
Wool:		
Sheep and lambs' .... pounds	67,097,581	12,358,000
Other kinds and flocks .... do	2,116,005	370,745
Woolen manufactures	....	1,708,210
All other articles	....	6,447,465
Total	....	67,924,960
Total of British and foreign produce	....	209,394,670

Table showing increase or decrease in exports to the United States in 1889 as compared with 1888.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
British and Irish produce.				
Alkali .... cwts	....	50,000	....	$43,235
Animals:				
Horses .... number	....	547	....	89,035
Unenumerated	....	....	$7,235	....
Apparel and haberdashery	....	....	333,935	....
Arms, ammunition, and military stores	....	....	121,040	....
Bags and sacks, empty .... dozens	....	43,041	235	....
Beer and ale .... barrels	....	3,839	....	120,665
Bleaching materials .... cwts	....	78,100	....	215,950
Books, printed .... do	630	....	....	46,800
Caoutchouc, manufactures of	....	....	59,045	....
Cement .... tons	9,457	....	159,285	....
Chemical products and preparations, including dyestuffs	....	....	172,040	....
Clay and manufactures thereof	....	....	62,780	....
Clocks, watches, and parts thereof	....	....	5,455	....
Coal, cinders, and fuel .... tons	....	118,685	....	268,710
Coal, products of (including naphtha, paraffine, paraffine oil, and petroleum)	....	....	4,615	....
Cordage and twine .... cwts	1,062	....	....	1,990
Cotton yarn .... pounds	299,000	....	172,450	....
Cottons:				
Entered by the yard .... yards	8,815,400	....	684,180	....
Entered at value	....	....	131,595	....
Earthen and china ware	....	....	....	60,305
Flax and hemp, dressed and undressed .... cwts	....	4,642	....	117,200
Furniture, cabinet, and upholstery wares	....	....	....	5,270
Glass manufactures	....	....	....	181,075
Hardware and cutlery, unenumerated	....	....	179,685	....
Hats of all sorts .... dozens	2,974	....	32,000	....
Hides, raw .... cwts	....	48,529	....	432,390
Implements and tools	....	....	68,785	....

Table showing increase or decrease in exports to the United States in 1889, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
British and Irish produce—Continued.				
Instruments and apparatus				$9,145
Jute:				
Yarn ... pounds		2,687,300		1,870
Manufactures (piece goods) ... yards	9,188,500		$1,352,925	
Leather, wrought and unwrought			51,675	
Linen yarn ... pounds		75,400		14,185
Linen:				
Entered by the yard ... yards	5,624,100		508,370	
Entered at value			276,575	
Machinery and millwork			1,555,455	
Manure			92,070	
Medicines, drugs, and preparations			101,905	
Metals:				
Iron, wrought and unwrought ... tons		63,730	1,202,455	
Copper, wrought and unwrought ... cwts	7,719		91,890	
Tin, unwrought ... do		6,139		248,275
Unenumerated, and manufactures thereof				36,415
Oil and floor cloth ... square yards	553,200		74,725	
Painters' colors and pigments			166,740	
Paper of all sorts ... cwts	1,796			6,980
Pickles, vinegar, sauces, etc				67,515
Prints, engravings, etc				29,375
Provisions, including meat				416,340
Rags and other materials for making paper ... tons	181		29,905	
Salt ... do		[illegible]	[illegible]	
Seeds of all sorts ... cwts	691		5,410	
Silk:				
Thrown, twist, or yarn			188,050	
Manufactures				342,750
Skins and furs of all sorts				359,790
Soap ... cwts	[illegible]		58,320	
Stationery, other than paper			32,625	
Stones and slates			101,270	
Sugar, refined, and candy ... cwts		13,536		45,655
Telegraph wires and apparatus				339,725
Wool, sheep and lambs' ... pounds		2,004,200		278,605
Woolen and worsted yarn ... do	53,500		7,520	
Woolens:				
Entered by the yard ... yards	9,448,300		2,852,975	
Entered at value			92,300	
Yarn (alpaca, mohair, and other sorts) ... pounds	216,500		132,460	
All other articles				536,960
Net increase			[illegible]	
Foreign and colonial produce.				
Animals (horses) ... number		63	34,345	
Art, works of, including pictures				3,490
Bristles ... pounds		[illegible]	18,735	
Caoutchouc ... cwts		3,362	87,225	
Chemical manufactures, unenumerated				46,855
China and earthen ware ... cwts	1,327		26,655	
Cocoa ... pounds	189,715		41,760	
Coffee ... cwts		11,160		136,400
Cordage, twine, and cable yarn				[illegible]
Cotton:				
Raw ... cwts		3,534	7,400	
Manufactures			434,155	

Table showing increase or decrease in exports to the United States in 1889, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Foreign and colonial produce—Continued.				
Drugs:				
Peruvian bark ... cwts		2,682		$147,790
Opium ... pounds		36,959		150,070
Unenumerated				94,780
Dyeing or tanning stuffs:				
Cochineal ... cwts	963		$19,055	
Cutch and gambier ... tons	333		125,395	
Indigo ... cwts	4,515		512,745	
Unenumerated ... do		4,165		60,560
Farinaceous substances				2,690
Feathers:				
For beds ... cwts	2,909		84,560	
Ornamental ... pounds		31,928		20,365
Fish, cured or salted ... cwts		5,621		30,125
Flax, dressed, undressed, and tow or codilla of flax ... do	14,189		215,235	
Fruits:				
Almonds ... do	8,565		122,965	
Currants ... do	3,760		16,470	
Figs and fig cake ... do	9,750		53,795	
Nuts used as fruit			44,635	
Oranges and lemons ... bushels		51,731		88,620
Raisins ... cwts		2,719	2,145	
Unenumerated—				
Raw ... bushels		83,514		174,385
Dried ... cwts		5,059		94,505
Glass of all kinds ... do		5,135		70,320
Gum:				
Lac, seed, shell, stick, and dye ... do	5,891		196,375	
All other sorts ... do	1,743		4,965	
Hair:				
Goats' hair or wool ... pounds	1,103,766		316,150	
All other sorts			355,740	
Hemp, dressed, undressed, and tow or codilla of hemp ... cwts	115,185		1,653,105	
Hides, raw ... do		51,286		694,925
Hops ... do	2,056		42,115	
Ivory (teeth of elephants, sea cow, etc.) ... do	670		204,545	
Jute ... tons	828		140,015	
Lace			266,725	
Leather, dressed and undressed ... pounds	699,297		36,050	
Linen manufactures			18,690	
Metals:				
Iron bars, etc ... tons		4,734		280,765
Steel, unwrought ... do	400			7,295
Iron and steel manufactures, unenumerated ... cwts		44,607		815
Lead, pig or sheet ... tons		1,932		137,830
Tin in blocks, ingots, bars, or slabs ... cwts	4,309			1,147,915
Precious stones, unset				121,080
Quicksilver ... pounds	230,100		145,360	
Rags and other materials for making paper ... tons	2,642		125,005	
Rags, woolen, applicable to other uses than manure, torn up or not ... tons		26		2,315
Rice ... cwts		149,433		353,215
Seeds:				
Flax ... quarters	127,744		1,329,835	
Unenumerated—				
Used for expressing oil ... do	11,503		127,895	
Not for oil ... cwts	1,688			1,590

Table showing increase or decrease in exports to the United States in 1889, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Foreign and colonial produce—Continued.				
Silk manufactures			$246,735	
Skins:				
Goat, undressed ... number	1,280,786		385,265	
Sheep ... do	516,373		173,605	
Skins and furs of all sorts ... do	867,380		31,550	
Spices of all sorts ... pounds	1,871,738		227,305	
Spirits, not sweetened, of all sorts ... proof gallons		27,272		$27,420
Sponges ... pounds	43,348		36,380	
Sugar, unrefined ... cwts		507,699		1,668,7[illegible]5
Tea ... pounds		822,701		187,460
Toys				23,305
Vegetables, unenumerated				69,665
Wine ... gallons		2,695		2,025
Wood (furniture, veneers, and hard woods) ... tons	268		19,370	
Wool:				
Sheep and lambs' ... pounds	5,395,030		2,266,300	
Other kinds and flocks ... do	186,852			62,140
Woolen manufactures			750,050	
All other articles			1,345,090	
Net increase			6,354,105	
Net increase of British and foreign produce			13,338,605	

DECLARED EXPORTS FOR THE UNITED STATES, 1890.

The compilations from the various consulates in the United Kingdom show that the exports to the United States continued to increase up to September 30, 1890. The total for the year ending that date amounted to $205,507,499 in value, an increase, compared with the corresponding period of 1888–'89, of $23,040,894.

There was an increase in nearly all the consular districts, the only exception of any importance being Glasgow, where there was a decrease of upwards of $200,000. The decrease at Leeds was entirely caused by Huddersfield being raised from a consular agency to a commercial agency.

There was an increase from London of $9,444,492; Liverpool, $5,131,929; Manchester, $1,714,485; Bradford, $1,421,380; and Nottingham, $1,177,034.

Table showing value of declared exports from the United Kingdom to the United States for the years ended September 30, 1889 and 1890.

District.	Articles.	1889.	1890.	Increase or decrease.
Belfast	Linens and cottons	$9,230,991.36	$9,485,669.59	+ $254,678.23
Birmingham	Hardware	3,377,056.68	4,158,756.78	+ 781,700.10
Bradford	Stuff goods	22,266,640.77	23,688,021.63	+ 1,421,380.86
Bristol	Woolens	373,304.00	444,765.80	+ 71,461.80
Cardiff	Tin plate	10,490,680.32	11,157,240.35	+ 666,560.03
Cork	Hides	112,578.87	125,013.70	+ 12,434.83
Dublin	Beer	986,454.56	1,168,728.41	+ 182,273.85
Dundee	Burlaps	9,377,144.93	10,045,296.86	+ 668,151.93
Dunfermline	Linens	2,234,920.27	2,210,262.57	— 24,657.70
Falmouth	China clay	126,114.60	138,701.76	+ 12,587.16
Glasgow	Cottons	8,166,578.88	7,964,485.41	— 202,093.47
Huddersfield	Woolens and worsteds		2,486,120.90	+ 2,486,120.90
Hull	Colors	510,816.07	680,017.93	+ 169,201.86
Leeds	Woolens and worsteds	6,018,425.98	4,144,232.49	— 1,874,193.49
Leith	Books	1,064,708.81	1,031,857.88	— 32,850.93
Liverpool	Tin plates	33,896,825.14	39,028,754.69	+ 5,131,929.55
London		47,385,928.17	56,830,421.06	+ 9,444,492.89
Manchester	Cottons	12,099,290.10	13,813,775.50	+ 1,714,485.40
Newcastle-on-Tyne	Chemicals	1,998,870.04	2,371,660.65	+ 372,790.61
Nottingham	Lace	5,784,667.42	6,961,701.49	+ 1,177,034.07
Plymouth	China clay	237,204.39	283,740.07	+ 46,535.68
Sheffield	Cutlery	2,964,488.41	3,364,415.14	+ 399,926.73
Southampton		7,046.47	7,735.32	+ 688.85
Tunstall	Earthenware	3,755,869.02	3,916,123.71	+ 160,254.69
Total		182,466,605.26	205,507,499.69	+23,040,894.43

SHIPPING.

The total tonnage of British and foreign vessels entered and cleared with cargoes and in ballast at ports in the United Kingdom, from and to foreign countries and British possessions, in 1889 was: Entered—British, 25,945,414 tons, an increase of 996,090 tons; foreign, 9,578,861 tons, an increase of 575,443 tons; and cleared—British, 26,524,240 tons, an increase of 1,078,310 tons; foreign, 9,841,380 tons, an increase of 720,907 tons.

The number of sailing vessels employed in the home and foreign trades carrying the British flag in 1889 was 11,969, with a tonnage of 2,976,346, manned by 87,765 persons, a decrease, respectively, of 323 vessels, 77,713 tons, and 2,829 persons compared with 1888. Steam vessels numbered 5,585, of 4,664,808 tons, manned by 142,498 persons, an increase of 293 vessels, 366,979 tons, and 9,419 persons, or a total decrease in the number of vessels of 30, but an increase in tonnage of 289,266 and persons employed 6,590.

The number and tonnage of sailing and steam vessels built in the United Kingdom (exclusive of vessels built for foreigners and of vessels built for Her Majesty's navy) in 1889 were: 277 sailing vessels of 117,481 tons, an increase of 8 vessels and 41,785 tons; and 582 steam vessels of 554,024 tons, an increase of 117 vessels and 146,579 tons; or a total increase of 125 vessels and 188,364 tons.

There were 17 sailing vessels of 19,666 tons and 210 steam vessels of 163,558 tons built in 1889 for foreigners for war and mercantile purposes.

The number of vessels belonging to the United Kingdom totally lost in 1888 was 429 sailing vessels of 115,946 tons, involving the loss of 724 seamen and 60 passengers, an increase of 65 vessels of 17,744 tons, but a decrease of 48 seamen and 211 passengers lost. The number of steamships lost was 115 of 73,512 tons and of lives lost 379 seamen and 721 passengers, being a decrease of 21 vessels of 26,472 tons and of lives lost of 375 seamen, but an increase of 630 passengers compared with 1887.

Table showing number and tonnage of sailing vessels that entered and cleared at ports in the United Kingdom.

ENTERED.

Flag.	1888.		1889.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	78	46,959	70	42,618	....	....	8	4,341
Belgian	4	1,014	7	3,023	3	2,009	....	....
British	6,822	2,814,551	6,808	2,703,884	....	....	14	110,667
Danish	1,694	238,759	1,810	259,400	116	20,641	....	....
Dutch	401	92,600	357	80,296	....	....	44	12,304
French	1,280	184,147	1,337	179,020	57	....	....	5,126
German	1,824	519,997	1,676	486,563	....	....	148	33,434
Italian	383	234,979	310	191,291	....	....	73	43,688
Norwegian	4,998	1,744,776	5,424	1,896,249	426	151,473	....	....
Russian	534	168,135	571	182,158	37	14,023	....	....
Spanish	74	23,129	89	26,783	15	3,654	....	....
Swedish	1,179	316,200	1,154	318,226	....	2,026	25	....
United States	83	86,493	72	106,139	....	19,646	11	....
Other countries	23	10,581	27	12,320	4	1,737	....	....
Total	19,377	6,482,320	19,712	6,487,971	*335	*5,651	....	....

CLEARED.

Austrian	84	51,361	62	35,490	....	....	22	15,871
Belgian	4	1,205	1	73	....	....	3	1,132
British	6,794	2,912,666	6,536	2,745,473	....	....	258	167,193
Danish	1,869	268,999	1,966	289,259	97	20,260	....	....
Dutch	426	99,947	356	85,352	....	....	70	14,595
French	1,253	187,205	1,310	181,689	57	....	....	5,516
German	1,819	527,622	1,753	517,800	....	....	66	9,822
Italian	390	235,174	301	185,099	....	....	89	50,075
Norwegian	4,963	1,727,978	5,550	1,938,930	587	210,952	....	....
Russian	512	158,988	599	191,429	87	32,441	....	....
Spanish	76	21,707	84	23,999	8	2,292	....	....
Swedish	1,160	315,443	1,197	324,711	37	9,268	....	....
United States	83	89,275	68	100,484	....	11,209	15	....
Other countries	42	19,956	38	17,936	....	....	4	2,020
Total	19,475	6,617,526	19,821	6,637,724	*346	*20,198	....	....

* Net increase.

Table showing number and tonnage of steam vessels that entered and cleared at ports in the United Kingdom.

ENTERED.

Flag.	1888.		1889.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	35	30,333	29	22,701	....	....	6	7,632
Belgian	1,076	332,929	1,238	398,210	162	65,281	....	....
British	30,642	22,134,773	31,869	23,241,530	1,227	1,106,757	....	....
Danish	1,088	527,653	1,172	595,593	84	67,940	....	....
Dutch	1,259	942,711	1,210	866,067	....	....	49	76,644
French	1,685	806,279	1,685	746,324	....	....	....	59,955
German	2,200	1,273,492	2,486	1,450,773	286	177,281	....	....
Italian	30	44,157	26	36,857	....	....	4	7,300
Norwegian	790	304,333	1,062	445,607	272	141,274	....	....
Russian	87	51,370	116	70,220	29	18,850	....	....
Spanish	515	480,337	565	562,146	50	81,809	....	....
Swedish	664	396,076	747	430,638	83	34,562	....	....
United States	21	43,637	29	61,993	8	18,356	....	....
Other countries	104	102,342	106	107,645	2	5,303	....	....
Total	40,196	27,470,422	42,340	29,036,304	*2,144	*1,565,882	....	....

CLEARED.

Flag.	1888.		1889.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	37	28,644	32	24,987	....	....	5	3,657
Belgian	1,061	327,461	1,206	391,088	145	63,627	....	....
British	31,025	22,533,264	32,509	23,778,767	1,484	1,245,503	....	....
Danish	1,113	537,949	1,209	615,878	96	77,929	....	....
Dutch	1,271	951,961	1,210	888,581	....	....	61	63,380
French	1,674	799,518	1,727	760,535	53	....	....	38,983
German	2,193	1,285,939	2,514	1,501,179	321	215,240	....	....
Italian	44	61,591	29	42,903	....	....	15	18,688
Norwegian	316	319,556	1,065	456,425	249	136,869	....	....
Russian	95	56,887	119	69,312	24	12,425	....	....
Spanish	524	481,995	595	595,270	71	113,275	....	....
Swedish	678	404,912	726	418,106	48	13,194	....	....
United States	21	44,743	27	56,994	6	12,251	....	....
Other countries	132	114,457	131	127,871	....	13,414	....	....
Total	40,684	27,948,877	43,099	29,727,896	*2,415	*1,779,019	....	....

*Net increase.

Table showing number and tonnage of sailing and steam vessels that entered and cleared at ports in the United Kingdom.

ENTERED.

Flag.	1888.		1889.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	113	77,292	99	65,319			14	11,973
Belgian	1,080	333,943	1,245	401,233	165	67,290		
British	37,464	24,949,324	38,677	25,945,414	1,213	996,090		
Danish	2,782	766,412	2,982	854,993	200	88,580		
Dutch	1,660	1,035,311	1,567	946,363			93	88,948
French	2,965	990,426	3,022	925,345	57			65,081
German	4,024	1,793,489	4,162	1,937,339	138	143,847		
Italian	413	279,136	336	228,148			77	50,988
Norwegian	5,788	2,049,109	6,486	2,341,856	698	292,747		
Russian	621	219,505	687	252,378	66	32,873		
Spanish	589	503,466	654	588,929	65	85,463		
Swedish	1,843	712,276	1,901	748,864	58	36,588		
United States	104	130,130	101	168,132		58,002	3	
Other countries	127	112,923	133	119,965	6	7,042		
Total	59,573	33,952,742	62,052	35,524,275	*2,479	*1,571,533		

CLEARED.

Austrian	121	80,005	94	60,477			27	19,528
Belgian	1,065	328,666	1,207	391,161	142	62,495		
British	37,819	25,445,930	39,015	26,524,240	1,226	1,078,310		
Danish	2,982	806,948	3,175	905,137	193	98,189		
Dutch	1,697	1,051,908	1,566	973,933			131	77,975
French	2,927	986,720	3,037	942,224	110			44,499
German	4,012	1,813,561	4,267	2,018,979	255	205,418		
Italian	434	296,765	330	228,002			104	68,763
Norwegian	5,779	2,047,534	6,615	2,395,355	836	347,821		
Russian	607	215,875	718	260,741	111	44,866		
Spanish	600	503,702	679	619,269	79	115,567		
Swedish	1,838	720,355	1,923	742,817	85	22,462		
United States	104	134,018	95	157,478		23,460	9	
Other countries	174	134,413	169	145,807		11,394	5	
Total	60,159	34,566,403	62,920	36,365,620	*2,761	*1,799,217		

* Net increase.

Table showing number and tonnage of British and foreign vessels (sailing and steam) entered and cleared at the principal ports in the United Kingdom.

ENTERED.

Port.	1888.		1889.		Increase.		Decrease.	
	No.	Tons	No.	Tons.	No.	Tons.	No.	Tons.
Belfast	297	195,399	319	227,058	22	31,659	....	....
Cardiff	3,878	2,928,265	3,872	2,912,896	....	....	6	15,369
Glasgow	933	994,311	975	1,058,228	42	63,917	....	....
Hull	3,176	1,897,868	3,266	2,008,205	90	110,337	....	....
Kirkaldy	947	283,643	1,047	330,490	100	46,847	....	....
Leith	1,386	687,616	1,496	708,084	110	20,468	....	....
Liverpool	4,457	5,368,196	4,689	5,789,400	232	421,204	....	....
London	10,694	7,470,949	10,730	7,550,121	36	79,172	....	....
Newport	1,594	962,329	1,584	945,471	....	....	10	16,858
Southampton	1,794	867,737	1,870	924,255	76	56,518	....	....
Sunderland	1,509	743,443	1,639	791,119	130	47,676	....	....
Tyne ports	5,318	2,818,307	5,474	2,953,442	156	135,135	....	....
Other ports	23,590	8,734,679	25,091	9,325,506	1,501	590,827	....	....
Total	59,573	33,952,742	62,052	35,524,275	*2,479	*1,571,533	....	....

CLEARED.

Belfast	115	68,649	116	69,392	1	743	....	....
Cardiff	6,179	5,148,068	6,281	5,401,618	102	253,550	....	....
Glasgow	1,427	1,544,571	1,439	1,621,307	12	76,736	....	....
Hull	2,668	1,503,824	2,827	1,582,178	159	78,354	....	....
Kirkaldy	1,717	605,100	1,977	697,885	260	92,785	....	....
Leith	1,024	512,988	1,156	557,587	132	44,599	....	....
Liverpool	4,002	4,941,556	4,064	5,147,028	62	205,472	....	....
London	7,919	5,470,912	8,129	5,566,620	110	95,708	....	....
Newport	2,186	1,469,403	2,072	1,422,712	....	....	14	46,691
Southampton	1,685	790,391	1,724	838,911	39	48,520	....	....
Sunderland	1,658	930,345	1,833	1,001,570	175	71,225	....	....
Tyne ports	7,601	4,392,727	7,970	4,786,939	369	394,212	....	....
Other ports	21,978	7,187,869	23,332	7,671,873	1,354	484,004	....	....
Total	60,159	34,566,403	62,920	36,365,620	*2,761	*1,799,217	....	....

* Net increase.

Table showing number and tonnage of registered vessels of the United Kingdom, Isle of Man, and Channel Islands which were employed in the home and foreign trade and the number of persons employed therein.

Description.	Number.	Tons.	Persons employed.		
			British.	Foreign.	Total.*
1889.					
Sailing vessels	11,969	2,976,346	75,282	12,370	87,765
Steam vessels	5,585	4,664,808	108,191	14,471	142,498
Total	17,554	7,641,154	183,473	26,841	230,263
1888.					
Sailing vessels	12,292	3,054,059	77,832	12,587	90,594
Steam vessels	5,292	4,297,829	102,137	12,690	133,079
Total	17,584	7,351,888	179,969	25,277	223,673
1887.					
Sailing vessels	12,694	3,114,430	68,278	13,053	81,442
Steam vessels	5,029	4,009,324	92,634	10,992	121,101
Total	17,723	7,123,754	160,912	24,046	202,543

* Including Lascars and Asiatics.

Table showing number and net tonnage of vessels built in the United Kingdom (exclusive of vessels built for foreigners).

[The figures are those of the ships finished building in the years mentioned.]

Description.	Iron.*		Steel.		Wood.†		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.
1889.								
Sailing vessels	24	15,118	62	93,271	191	9,092	277	117,481
Steam vessels	113	35,386	445	518,074	23	553	‡582	554,024
Total	137	50,504	507	611,345	214	9,645	‡859	671,505
1888.								
Sailing vessels	55	20,999	38	45,614	176	9,083	269	75,696
Steam vessels	91	26,183	350	579,358	24	1,904	465	407,445
Total	146	47,182	388	424,972	200	10,987	734	483,141
1887.								
Sailing vessels	44	46,557	34	25,235	180	9,487	258	81,279
Steam vessels	76	18,910	227	205,907	19	623	322	225,440
Total	120	65,467	261	231,142	199	10,110	580	306,719

* Including vessels built partly of iron and partly of steel.
† Including composite vessels.
‡ Including a vessel built of delta metal.

Table showing number and net tonnage of iron, steel, and wooden sailing and steam vessels built at ports in the United Kingdom for foreigners in 1889, distinguishing whether built for war or mercantile purposes, with increase or decrease as compared with 1888.

Description.	1889.		1888.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
War.								
Steam..................	6	726	17	1,899	....	....	11	1,173
Mercantile.								
Sailing..................	17	19,666	37	20,697	....	....	20	1,031
Steam..................	204	162,832	93	68,210	111	94,622	....	....
Total..........	221	182,498	130	88,907	91	93,591	....	....
Summary.								
Sailing..................	17	19,666	37	20,697	....	....	20	1,031
Steam..................	210	163,558	110	70,109	100	93,449	....	....
Total..........	227	183,224	147	90,806	80	82,418	....	....

Table showing number and tonnage of vessels belonging to the United Kingdom totally lost (exclusive of vessels of the royal navy) and number of passengers and crew lost.

Description.	Vessels lost.		Persons lost.		
	No.	Tons.	Crew.	Passengers.	Total
Sailing.					
1887..	364	98,202	772	271	1,043
1888..	429	115,946	724	60	784
Increase..	65	17,744	....	....	....
Decrease..	....	....	48	211	*259
Steam.					
1887..	136	99,984	754	91	845
1888..	115	73,502	379	721	1,100
Increase..	....	....	....	630	*255
Decrease..	21	26,472	375	....	....
Summary.					
1887..	500	198,196	1,526	362	1,888
1888..	544	189,458	1,103	781	1,884
Increase..	44	....	....	419	....
Decrease..	....	8,728	423	....	*4

* Average.

AGRICULTURE.

The cultivated area of Great Britain in 1890 shows an increase of 34,978 acres as compared with the previous year; but, following the course which has been going on for the last 18 years, the total acreage of arable land is 117,000 acres less, while the total acreage under permanent pasture has increased by 152,000 acres.

The changes in the crops produced in the last 20 years are shown in the following table:

Year.	Corn crops.	Green crops.	Clover and grasses under rotation.	Other crops.	Bare fallow.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
1870	9,548,000	3,587,000	4,505,000	85,000	611,000
1880	8,876,000	3,477,000	4,434,000	76,000	813,000
1890	8,033,000	3,298,000	4,809,000	103,000	508,000

Table showing the acreage of the United Kingdom, with the increase or decrease in 1890 as as compared with 1889.

Acreage.	1890.	1889.	Increase.	Decrease.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Total acreage of United Kingdom	77,799,793	77,799,793		
Permanent pasture	27,115,425	26,816,092	299,333	
Arable land	20,930,330	21,115,073		184,743
Cultivated area	48,045,755	47,931,165	*114,590	
Corn crops	9,574,249	9,637,354		63,105
Green crops	4,534,145	4,541,760		7,615
Clover, etc., under rotation	6,097,210	6,188,502		91,292
Flax	99,326	116,192		16,866
Hops	54,555	57,749		3,194
Small fruit	46,733	42,506	4,227	
Bare fallow	524,112	531,010		6,898

* Average increase.

The record of live stock in Great Britain in 1890 is the most satisfactory presented in many years. It shows an increase in all classes of animals, the increase in the number of horses being 19,252; cattle, 517,093; sheep, 2,182,421; and pigs, 456,175.

From a table prepared by the board of agriculture, it appears that the United States (with 52,800,000 head of cattle), Russia (with 24,600,000), Germany (with 15,800,000), and France (with 13,400,000) are the only countries wherein the totals exceed those of the herds of the United Kingdom. In sheep, Australasia (with flocks amounting to upwards of 101,000,000), Russia (with 44,500,000), and the United States (with 44,300,000) are the only countries possessing flocks greater than those of the United Kingdom.

The increase in the number of live stock in the last 20 years is shown in the following table:

Years.	Horses.	Cattle.	Sheep.	Pigs.
1870	1,267,000	5,403,000	28,398,000	2,171,000
1880	1,421,000	5,912,000	26,619,000	2,001,000
1890	1,433,000	6,509,000	27,272,000	2,774,000

Table showing the number of live stock in Great Britain in 1889 and 1890.

Description.	1890.	1889.	Increase.
	Number.	*Number.*	*Number.*
Horses	1,964,911	1,945,386	19,525
Cattle	10,789,858	10,272,765	517,093
Sheep	31,667,195	29,484,774	2,182,421
Pigs	4,362,040	3,905,865	456,175

The number of horses imported into the United Kingdom in 1889 was 13,800, of the average value of $100, while the number of horses exported was 14,800, of the average value of $345.

The average value of animals imported from the United States was: Horses, $282; oxen and bulls, $95; cows, $82; calves, $16; and sheep, $9.50.

Table showing the average value per head of horses, cattle, etc., imported into the United Kingdom from foreign countries and British possessions from 1870 to 1889, inclusive.

Years.	Horses.	Cattle.			Sheep (including lambs).	Pigs.
		Oxen and bulls.	Cows.	Calves.		
1870	$148.97	$87.57	$76.42	$20.51	$8.35	$18.12
1875	185.30	104.68	91.48	23.17	10.78	17.18
1880	122.79	107.28	88.95	23.09	11.70	16.98
1885	73.09	102.88	94.14	22.18	10.52	18.60
1889	97.58	89.58	59.02	18.64	8.57	18.30

Table showing the average value per head of horses, cattle, etc., imported into the United Kingdom from each foreign country and British possession in 1889.

Whence imported.	Horses.	Cattle.			Sheep (including lambs).	Pigs.
		Oxen and bulls.	Cows.	Calves.		
Argentine Republic	$116.79				$9.73	
Belgium	222.52					
Canada	228.57	$83.33	$85.57	$8.41	9.66	
Channel Islands	88.20	143.53	96.13	18.66		
Denmark	38.84	58.17	54.81	17.59	7.15	$19.48
Falkland Islands					7.78	
France	314.69					
Germany	54.40				8.03	
Holland	178.94	77.75	75.67	19.91	10.36	9.24
Norway	66.83	47.05	45.51		6.32	
Portugal		97.18				
Spain	13.95	80.11				
Sweden	125.13	58.47	54.62	23.11	7.33	14.71
United States	282.63	95.85	82.16	16.35	9.42	
Average	97.58	89.58	59.02	18.64	8.57	18.30

As an indication of the increased consumption of meat in this country, it is interesting to notice that the number of live cattle imported in 1889 was larger than ever before, reaching 555,000 head. Of this total 68 per cent., or 379,012, came from the United States and Canada. The importations of fresh beef have also been larger than ever before, amounting to 1,386,000 cwts., equivalent to nearly 250,000 bullocks.

The following table shows the quantities of meat, grain, and meal and flour imported in 1879 and 1889:

Whence imported.	Dead meat.		Grain.		Meal and flour.	
	1879.	1889.	1879.	1889.	1879.	1889.
	Cwts.	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*
Australasia	94,456	777,495	2,247,605	1,507,132	37,638	33,263
Argentine Republic	4,272	414,796	225,574	1,732,245	9,884	742
Austrian territories	....	....	22,118	784,957	1,513,092	1,841,022
Canada	75,869	376,476	8,638,621	4,613,904	457,174	1,167,622
Chile	....	....	1,466,747	870,004	68,518	....
Denmark	43,767	661,133	2,941,227	624,484	397,050	57,630
Egypt	....	....	3,969,430	1,579,102	6,417	1,250
France	10,213	15,324	736,283	880,034	355,006	90,613
Germany	349,759	159,056	7,983,577	4,546,518	915,133	1,153,859
Holland	89,255	249,989	268,094	326,533	....	....
India (British)	17	3	889,656	9,357,620	2,080	10
Italy	546	97	45,123	84,781	....	....
Morocco	....	....	3,000	2,043,364	....	....
Roumania	....	....	4,665,989	11,091,827	....	9,870
Russia	1,401	6,901	18,243,158	46,946,257	90,316	236,105
Sweden	355	72,949	5,009,561	1,646,043	....	....
Turkey	....	....	275,035	3,468,609	....	3,435
United States	6,183,597	5,575,591	67,193,299	40,503,461	6,862,179	10,043,720
All other countries	38,731	158,843	492,724	1,528,219	13,825	32,941
Total	6,892,238	8,468,653	125,316,821	134,135,094	10,728,252	14,672,082

Table showing the estimated total produce and average yield per acre of each of the principal crops in the United Kingdom in 1887, 1888, and 1889.

Description.	Estimated total produce.			Estimated average yield per acre.		
	1887.	1888.	1889.	1887.	1888.	1889.
Corn crops:						
Wheat............bushels..	76,224,940	74,493,133	75,883,611	31.97	27.97	29.89
Barley..................do....	69,948,266	74,545,549	74,703,755	31.12	33.03	32.37
Oats.....................do....	150,789,416	157,975,675	164,078,736	34.25	37.95	39.75
Beans...................do....	8,473,007	9,844,474	9,374,942	22.47	28.61	28.87
Peas......................do....	5,623,226	5,862,099	5,921,107	24.43	24.20	26.27
Green crops:						
Potatoes...............tons...	7,134,296	5,582,331	6,435,387	5.26	4	4.71
Turnips and swedes.do....	22,466,877	28,001,632	32,007,085	9.89	12.51	14.43
Mangolds.............do....	5,878,398	6,829,022	6,740,278	14.61	16.78	18.21
Other crops:						
Hay.......................do....	11,492,716	15,132,585	16,284,879	1.27	1.63	1.69
Hops...................cwts...	457,515	281,291	497,811	7.18	4.81	8.62

Table showing the average gazette prices per imperial quarter (8.25212 United States bushels) of wheat, barley, and oats in England and Wales from 1879 to 1889, inclusive.

Year.	Wheat.	Barley.	Oats.
1879	$10.66	$8.27	$5.28
1880	10.77	8.04	5.61
1881	11.03	7.76	5.28
1882	10.97	7.58	5.30
1883	10.11	7.74	5.20
1884	8.69	7.45	4.92
1885	7.98	7.33	5.00
1886	7.56	6.46	4.62
1887	7.90	6.16	3.95
1888	7.76	6.77	4.07
1889	7.25	6.28	4.32

FISHERIES.

The quantity of fish landed on the coasts of the United Kingdom in 1889 was 12,678,000 cwts. (exclusive of shellfish), of the value of $28,041,405, against 11,507,253 cwts., of the value of $27,355,590, in the previous year. The value of shellfish landed was $1,928,005, making the total value of all fish landed $29,969,405, or an increase of about $900,000 in the year.

The largest quantities of fish taken were: Cod, 850,450 cwts.; haddock, 2,379,552 cwts.; mackerel, 777,515 cwts.; herrings, 5,591,517 cwts.; lobsters and crabs, about 10,000,000; and oysters, 38,000,000.

Prime fish, such as turbot and soles, have increased in value, compared with the previous year, by about $4.32 per cwt., and salmon, $3.90 per cwt. Other fish have remained stationary in price or decreased in value, mackerel having decreased as much as 36 cents per cwt.

Table showing the average price of fish in the United Kingdom.

Description.	Price.	Description.	Price.
Turbot ... per cwt ...	$16.77	Mackerel ... per cwt ...	$2.48
Soles ... do ...	25.16	Herring ... do ...	1.07
Salmon ... do ...	32.25	Sprats ... do ...	.64
Cod ... do ...	2.31	Lobsters ... per 100 ...	19.19
Ling ... do ...	2.45	Crabs ... do ...	4.19
Haddock ... do ...	2.06	Oysters ... do ...	1.40

Table showing the quantity and value of fish landed on the coasts of the United Kingdom in 1888 and 1889.

Division.	Fish (excluding shellfish).			
	Quantity.		Value.	
	1888.	1889.	1888.	1889.
	Cwts.	*Cwts.*		
England and Wales	6,348,072	6,464,564	$19,740,065	$19,311,945
Scotland	4,756,936	5,416,312	6,697,885	7,153,155
Ireland	402,245	797,520	917,640	1,596,300
Total	11,537,253	12,678,096	27,355,590	28,041,400

Division.	Shellfish.		Total value.	
	1888.	1889.	1888.	1889.
England and Wales	$1,324,720	$1,532,705	$21,064,785	$20,844,650
Scotland	358,645	314,735	7,056,530	7,467,890
Ireland	38,290	80,565	955,930	1,656,865
Total	1,721,655	1,928,005	29,077,245	29,969,405

Table showing the quantity and value of fish taken in the United Kingdom in 1888.

Description.	England and Wales.		Scotland.	
	Quantity.	Value.	Quantity.	Value.
	Cwts.		*Cwts.*	
Prime fish	163,701	$3,695,170	21,195	$213,630
Other fish	6,296,363	15,471,625	5,394,817	6,939,525
Salmon (about)	4,500	145,150	....	1,200,000
Shell fish	....	1,532,705	....	314,735
Total	6,464,564	20,844,650	5,416,012	8,667,890

Description.	Ireland.		Total.	
	Quantity.	Value.	Quantity.	Value.
	Cwts.		*Cwts.*	
Prime fish	6,305	$109,945	191,201	$4,018,745
Other fish	791,225	1,466,355	12,482,395	23,877,505
Salmon (about)	....	1,670,000	....	3,015,150
Shell fish	....	80,565	....	1,928,005
Total	797,520	3,326,865	12,678,096	32,839,405

Table showing the number of boats and men and boys employed in sea fisheries in the United Kingdom.

Division.	Boats.	Men and boys.
England	8,271	43,473
Scotland	11,919	49,844
Ireland	6,662	24,189
Isle of Man	377	2,508
Channel Islands	234	1,402
Total	27,463	121,416
Total for 1888	27,812	122,526
Decrease compared with 1888	349	1,110

MINES.

The total number of persons employed in and about all the mines in the United Kingdom in 1889 was 625,229, of whom 5,777 were females, an increase of 32,573 persons employed compared with 1888.

The number of fatal accidents was 912 and the number of deaths 1,128, against 885 accidents and 960 deaths in the previous year. The ratio of persons employed was 1 in every 538; the ratio last year was 1 in every 603.

The total quantity of mineral wrought was about 192,994,743 tons, of which 176,916,724 tons were coal, 8,270,542 tons ironstone, and 2,853,463 tons iron ore.

There were 6,981,505 tons more coal raised in 1889 than in the previous year, and the average price per ton was $1.53, compared with $1.26 in 1888.

The amount of pig-iron produced was 8,322,824 tons, against 7,998,969 tons in 1888, and the average price per ton advanced from $9.25 to $12.25.

The amount of iron produced was 8,912 tons, against 9,241 tons in the previous year, and the price fell from $586 per ton to $483.

Zinc shows a decreased production of 610 tons, but the price increased from $95 per ton to $102.

The following tables give the number of persons employed, fatal accidents, minerals raised, etc.:

Persons employed in and about all mines in the United Kingdom in 1888 and 1889.

Description.	1888.	1889.
Persons employed underground (males)	465,006	489,179
Persons employed above ground:		
Males	108,054	112,513
Females	5,357	5,463
Persons employed on branch railways:		
Males	13,916	17,760
Females	323	314
Total	592,656	625,229

Number of persons employed, with number of fatal accidents and deaths, in all mines in the United Kingdom from 1874 to 1889, inclusive.

Year.	Persons employed.				Number of separate fatal accidents.
	Underground (males).	Above ground.		Total.	
		Males.	Females.		
1874-'83 (average)	436,737	112,727	8,186	557,650	938
1884	448,847	109,403	6,246	564,496	917
1885	449,093	106,607	5,976	561,676	866
1886	448,657	106,867	5,568	561,092	869
1887	453,653	108,648	5,725	568,026	881
1888	465,006	108,054	5,357	578,417	885
1889	489,179	112,513	5,463	607,155	912

Year.	Number of deaths caused by the accidents.	Persons employed.		Death rate from accidents per 1,000 persons employed.
		Per fatal accident.	Per life lost.	
1874-'83 (average)	1,217	594	458	2.182
1884	998	615	565	1.768
1885	1,214	648	462	2.164
1886	1,018	645	551	1.814
1887	1,051	644	540	1.85
1888	960	653	603	1.66
1889	1,128	666	538	1.858

Quantity of mineral wrought at mines in the United Kingdom in 1888 and 1889.

Minerals.	1888.	1889.
	Tons.	*Tons.*
Coal	169,935,219	176,916,724
Fire clay	1,879,273	2,192,346
Ironstone	8,635,032	8,270,542
Oil shale	2,076,504	2,014,860
Clays	......	82,443
Iron ore	......	2,853,436
Gypsum	......	92,727
Lead ore	......	48,431
Tin ore	......	12,464
Zinc ore	......	22,986
Other minerals (about)	......	487,784
Total	......	192,994,743

Quantity and value of coal and metals produced in the United Kingdom in 1888 and 1889.

Description.	Quantity.		Value.	
	1889.	1888.	1889.	1888.
Coal......tons...	176,916,724	169,935,219	$2[illegible],877,130	$214,856,380
Metals produced from British ores:				
Pig-iron......do......	8,322,824	7,998,969	101,954,590	73,[illegible],460
Fine copper......do......	905	1,450	249,740	579,245
Metallic lead......do......	35,[illegible]	37,578	2,321,710	2,614,020
White tin......do......	8,912	9,241	4,3[illegible]1,710	5,418,500
Zinc......do......	9,392	10,002	960,725	957,275
Silver from lead......ounces...	306,149	321,425	272,265	2[illegible]7,105
Other metals......	......	......	151,850	18[illegible],000
Total......	......	......	391,089,720	298,8[illegible],985

POST-OFFICE.

The estimated number of letters, postal cards, etc., delivered in the United Kingdom in the year ended March 31, 1890, was 2,511,253,000, an increase of 6.3 per cent. when compared with the previous year. The average number to each person in the Kingdom was 66.2.

The following table gives the number of letters, etc., dealt with and the average number per head of the population for the year ended March 31, 1890:

Division.	Estimated population.	Letters.		Book packets, circulars, and samples.		Newspapers.	
		Number.	Per head of population.	Number.	Per head of population.	Number.	Per head of population.
England and Wales..	29,113,783	1,413,100,000	48.5	381,300,000	13	126,600,000	4.3
Scotland......	4,087,927	140,300,000	34.3	42,400,000	10.4	16,700,000	4.1
Ireland......	4,717,429	96,800,000	20.5	22,000,000	4.7	16,000,000	3.4
Total......	37,919,139	1,650,200,000	43.5	445,700,000	11.8	159,300,000	4.2

Division.	Postal cards.		Telegrams.		Parcels.	
	Number.	Per head of population.	Number.	Per head of population.	Number.	Per head of population.
England and Wales......	184,400,000	6.3	52,436,779	1.8	35,369,047	1.2
Scotland......	22,900,000	5.6	6,545,654	1.6	4,528,364	1.1
Ireland......	9,800,000	2.1	3,420,966	0.7	2,955,159	0.6
Total......	217,100,000	5.7	62,403,399	1.6	42,852,570	1.1

The number of letters dealt with at the returned letter office was 6,311,102. Of this number, 119,386 were reissued to corrected addresses, 5,539,551 were returned to senders, and 214,839 returned to foreign countries. About

28,790 letters were posted without any addresses, and of these 1,495 contained cash, bank notes, and checks of the value of over $30,000.

It is expected that the mail service between England and Japan and China will come into operation in 1891.

Money orders.—The number of money orders issued in the United Kingdom was as follows:

Description.	Number.			Amount.		
	1889.	1888.	Increase or decrease.	1889.	1888.	Increase.
Inland	9,027,750	9,228,183	—200,443	$116,667,085	$114,788,245	$1,878,840
Colonial	81,717	74,085	+ 7,632	1,531,720	1,342,035	189,685
Foreign	282,108	261,475	+ 20,651	3,463,155	3,217,195	245,960
Total	9,391,575	9,563,725	—172,150	121,661,960	119,347,475	2,314,485

The amount sent to the United States by money order was $900,130, and received from the United States, $5,301,300, out of a gross total received from all foreign countries of $7,541,205.

The number of postal orders issued was 44,712,548, of the value of $88,689,010, an increase, respectively, of 4,430,227 and $8,628,615 as compared with the previous year.

Savings banks.—The following table shows the business done by the post-office savings banks for the last five years:

Year.	Number of post-office savings banks.	Deposits.			Interest credited to depositors.	Withdrawals.	
		Number.	Amount.	Average amount of each deposit.		Number.	Amount.
1885	8,106	6,474,484	$75,173,470	$11.60	$5,460,560	2,280,062	$66,013,710
1886	8,351	6,562,395	78,484,260	11.95	5,847,950	2,390,655	68,449,715
1887	8,720	6,916,327	82,679,660	11.95	6,220,370	2,496,294	73,401,395
1888	9,022	7,540,625	95,261,130	12.62	6,664,190	2,633,808	79,013,675
1889	9,353	8,101,120	99,071,540	12.22	7,215,930	2,757,848	84,071,340

Year.	Average amount of each withdrawal.	Charges of management.	Number of accounts opened.	Number of accounts closed.	Number of accounts remaining open at close of year.	Amount (inclusive of interest) standing to credit of all open accounts at close of year.	Average amount standing to credit of each open account at close of year.
1885	$28.95	$1,282,010	750,862	548,887	3,535,650	$238,489,190	$67.45
1886	28.62	1,452,775	758,270	562,499	3,731,421	254,376,690	68.16
1887	29.39	1,442,090	794,592	574,252	3,951,761	269,870,325	68.29
1888	30.00	1,634,950	887,460	618,294	4,220,927	292,781,970	69.35
1889	30.47	1,684,770	924,010	637,128	4,507,809	314,998,100	69.87

The total number of accounts open at the end of the year was distributed as follows:

Division.	Number.	Proportion to population.	Average balance due to each depositor.
England and Wales	4,162,529	1 to 7	$69.85
Scotland	159,920	1 to 25	43.06
Ireland	185,360	1 to 25	93.72
Total	4,507,809	1 to 8	69.87

Telegraphs.—The number of telegrams sent during the year was 62,403,399, against 57,765,347 in the previous year.

The following table shows the total cost of the telegraph service in each of the last 5 years:

Year.	Receipts.	Expenditures.			Annual interest on capital.	Deficit.
		Telegraph vote.	Votes of other departments.	Total.		
1885–'86	$8,936,320	$8,665,520	$496,485	$9,162,005	$1,632,085	$1,857,770
1886–'87	9,435,800	9,698,820	464,340	10,163,160	1,632,085	2,359,445
1887–'88	9,964,745	9,641,725	353,440	9,995,165	1,632,085	1,662,505
1888–'89	10,649,825	9,846,620	360,185	10,206,805	1,768,935	1,325,915
1889–'90	11,819,180	10,907,360	404,190	11,311,550	1,496,080	988,450

Postal revenues and expenditures.

Receipts:		
Postage on letters, parcels, etc.		$45,734,205
Commission on money orders		648,140
Commission on postal orders		977,025
Value of unclaimed money orders		14,500
Savings bank		1,865,020
Revenue from telegraphs		11,819,180
		61,058,070
Expenditures:		
Postal service (including money-order and postal-order business)	$28,004,440	
Packet service	3,326,875	
Savings bank	1,684,770	
Telegraph service	11,311,550	
		44,327,635
Net revenue		16,730,435

The net revenue shows an increase of $732,215 over the previous year.

RAILWAYS.

The working of the railways of the United Kingdom in 1889 was very satisfactory, inasmuch as more work was done and more money earned than in any previous year.

The increase in capital stock added was smaller than in any year since 1880, being only $59,496,015, or 1.4 per cent. The total amount of ordinary capital was $1,631,147,790, on which the rate of dividend was 4.66 per cent.; guarantied and preferred capital, $1,637,233,135; rate of dividend, 4.12 per cent.; loans and debenture stock, $1,114,594,905; dividend, 4.11 per cent.; or a dividend at the rate of 4.32 per cent. on the total capital.

The total receipts from traffic were $385,125,085, an increase of $20,651,760, or 5.7 per cent., compared with 1888, made up as follows: Passenger traffic, $163,153,620, an increase of 5.3 per cent.; goods traffic, $205,431,660, an increase of 6 per cent.; and miscellaneous receipts (which include rents, tolls, revenue from steamboats, and other items), $16,539,800, or 4.9 per cent.

The total working expenditure was $200,470,580, an increase of $11,660,045, or 6.2 per cent., as compared with the previous year. This increase was principally due to increased cost of wages and materials, and was equal to about 1 cent per train mile.

The following table gives the train-mileage expenditure under the various headings of outlay for 1888 and 1889, with increase or decrease in 1889 as compared with 1888:

Description.	1889.	1888.	Increase.	Decrease.
	Cents.	*Cents.*	*Cents.*	*Cents.*
Maintenance of way	10.38	10.20	0.18	
Rolling stock	5.96	6.04		0.05
Locomotive power	16.62	15.75	0.84	
Traffic expenses	19.42	19.36	0.06	
General charges	2.78	2.84		0.06
Rates and taxes	3.52	3.56		0.04
Government duty	0.54	0.54		
Compensations:				
Personal injuries	0.40	0.16	0.24	
Damage to goods	0.30	0.28	0.02	
Legal and parliamentary expenses	0.42	0.40	0.02	
Miscellaneous	0.78	0.80		0.02
Total	61.08	59.94	*1.14	

*Net increase.

The total quantity of minerals conveyed was 211,800,000 tons, and general merchandise, 85,700,000 tons, an increase, respectively, of 5.1 and 7 per cent. compared with the previous year. The receipts from carriage of minerals was $85,255,000; general merchandise traffic, $113,470,000; live stock, $6,700,000; an increase on minerals and general merchandise of 5.5 and 6.8 per cent. respectively, but a decrease on live stock of 1.3 per cent.

The number of passengers conveyed was 775,183,000, against 742,499,000 in 1888, an increase of 4.4 per cent.

The mileage traveled by trains in 1888 and 1889 was as follows:

Year.	Passenger trains.	Goods trains.	Total, including mixed trains.
	Miles.	*Miles.*	*Miles.*
1889	161,100,000	139,000,000	303,100,000
1888	155,500,000	132,800,000	291,200,000
Increase	*5,600,000	†6,200,000	‡11,900,000

*3.6 per cent. †4.7 per cent. ‡4.1 per cent.

Summary of mileage, capital, traffic, receipts, and net earnings of railways in the United Kingdom in 1888 and 1889.

Description.	1888.	1889.	Increase in 1889.	
			Amount.	Percentage.
	Miles.	*Miles.*	*Miles.*	
Mileage	19,812	19,943	131	0.7
Double or more mileage	10,772	10,853	81	0.8
Capital	$4,323,479,815	$4,382,975,830	$59,496,015	1.4
Capital per mile open	218,225	219,775	1,550	0.7
Ordinary capital	1,611,692,230	1,631,147,790	19,455,560	1.2
Receipts:				
Passenger	154,920,450	163,153,620	8,233,170	5.3
Goods	193,778,900	205,431,660	11,652,760	6
Miscellaneous	15,773,975	16,539,800	765,825	4.9
Total	364,473,325	385,125,085	20,651,760	5.7
Working expenses	188,810,535	200,470,580	11,660,045	6.2
Net earnings	175,662,790	184,654,505	8,991,715	5.1
	Per cent.	*Per cent.*	*Per cent.*	
Percentage of net earnings on capital	4.06	4.21	0.15	3.7

Railway receipts in the United Kingdom for the years 1885–'89, inclusive.

Year.	Total traffic receipts.	Total railway working expenses.		Net receipts from railway working.	
		Amount.	Proportion to total traffic receipts.	Amount.	Proportion to total loan and share capital.
			Per cent.		*Per cent.*
1885	$333,224,835	$177,137,665	53.2	$156,087,170	3.83
1886	333,076,885	175,552,360	52.7	157,524,525	3.80
1887	339,572,930	178,328,355	52.5	161,244,575	3.81
1888	348,699,350	181,836,440	52.1	166,862,910	3.86
1889	368,585,285	192,876,780	52.3	175,708,505	4.01

Receipts from passenger and goods traffic in the United Kingdom from 1885 to 1889, inclusive.

Year.	Passenger traffic.			Goods traffic.		
	Amount.	Increase or decrease.		Amount.	Increase or decrease.	
		Amount.	Percentage.		Amount.	Percentage.
1885	$148,865,110	−$1,287,140	−0.86	$184,359,725	−$3,993,235	−2.12
1886	151,224,690	+ 2,359,580	+1.59	181,852,195	− 2,507,530	−1.36
1887	152,866,435	+ 1,641,245	+1.09	186,706,495	+ 4,854,300	+2.67
1888	154,920,450	+ 2,054,015	+1.34	193,778,400	+ 7,072,405	+3.79
1889	163,153,620	+ 8,233,170	+5.31	205,431,065	+11,652,765	+6.01

Year.	Gross receipts.		
	Amount.	Increase or decrease.	
		Amount.	Percentage.
1885	$333,224,835	−$5,280,375	−1.56
1886	333,076,885	− 147,950	−0.04
1887	339,572,930	+ 6,496,045	+1.95
1888	348,699,350	+ 9,126,420	+2.69
1889	368,585,285	+19,885,935	+5.70

Number of persons killed and injured on railways in the the United Kingdom in the 6 months ended June 30, 1890.

Description.	Killed.	Injured.	Total for corresponding period in 1889.		Increase.		Decrease.*	
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers:								
From accidents to trains, rolling stock, etc	6	121	81	523	....	....	75	402
By accidents from other causes	44	378	32	337	12	41	....	....
Servants:								
From accidents to trains, rolling stock, etc	8	58	....	59	8	....	....	1
By accidents from other causes	209	1,327	199	1,229	10	98	....	....
Persons passing over railways at level crossings	37	16	31	16	6	....	....	....
Trespassers (including suicides)	150	56	166	47	....	9	16	....
Other persons	23	40	17	31	6	9	....	....
Total	477	1,996	526	2,242	42	157	91	403

* Net decrease—killed, 49; injured, 246.

The number of persons killed and injured on railways in the United Kingdom during the 6 months ended June 30, 1890, was 477 killed and 1,996 injured, against 526 killed and 2,242 injured in the corresponding period in 1889. In addition to these numbers, 22 persons were killed and

3,112 injured while engaged in business on the premises of the various railway companies, but in which the movement of vehicles used exclusively upon railways was not concerned.

Occupations of employés of railway companies killed or injured in 6 months ended June 30, 1890.

Occupation.	Killed.	Injured.
	Number.	*Number.*
Brakesmen and goods guards	21	244
Capstan men	5	23
Chockers, chain boys, and slippers	2	32
Engine-cleaners	4	23
Engine-drivers	12	130
Firemen	9	156
Guards, passenger	3	55
Laborers	18	61
Permanent way men	42	47
Porters	21	225
Shunters	18	179
Signalmen	1	12
Others	61	198
Total	217	1,385

TRAMWAYS.

The number of miles of tramways open in the United Kingdom in 1889 was 945, an increase of 45 miles in the year. The gross receipts were $14,901,120, and working expenditures, $11,333,405, leaving net receipts $3,567,715, an increase, when compared with 1888, respectively, of $919,625, $456,235, and $463,390.

The following table shows the total length, etc., of tramways in the United Kingdom in 1889:

Division.	Length of line open.	Paid-up capital.	Number of passengers conveyed.	Gross receipts.	Working expenses.	Net receipts.
	Miles.					
England and Wales	758	$55,526,660	379,580,965	$11,875,160	$9,159,230	$2,715,930
Scotland	81	6,264,390	70,583,156	1,984,855	1,388,730	596,125
Ireland	110	5,993,765	27,432,147	1,041,105	785,445	255,660
Total	949	67,784,815	477,596,268	14,901,120	11,333,405	3,567,715

POPULATION.

The estimated population of the United Kingdom in the middle of 1889 was 37,823,249, an increase, compared with 1888, of 382,755. The population of the different divisions of the Kingdom was as follows: England and Wales, 29,015,613, an increase in the year of 386,809; Scotland, 4,077,070, an increase of 42,914; and Ireland, 4,730,566, a decrease of 46,968.

The marriage rate in 1889 for the Kingdom was 13.8 per 100, a higher rate than any since 1884. In England and Wales the rate was 14.7; Scotland, 12.9; Ireland, 9.1, as compared with 14.2, 12.5, and 8.4, respectively, in the previous year.

The births registered in England and Wales numbered 885,914; Scotland, 122,770; and Ireland, 107,841; or at the rate of 30.5, 30.1, and 22.8, respectively, per 1,000. This is the lowest birth rate recorded in the last 50 years.

The number of deaths registered was: England and Wales, 518,313; Scotland, 73,203; and Ireland, 82,908; or at the rate of 17.9, 18, and 17.5, respectively, per 1,000 of population. There were 113 deaths in the urban population to 100 in the rural population. The deaths from zymotic diseases numbered 69,776 in England and Wales, or in the proportion of 2,405 to 1,000,000. This rate, though considerably above the rate for 1888, was, with that exception, the lowest yet recorded. There were only 23 deaths from smallpox, less than one-tenth of the smallest number previously recorded. Chicken pox caused 83 deaths; measles, 14,732, a considerable increase; scarlet fever, 6,698, the smallest proportion (231 to 1,000,000) yet recorded; typhus, 137; fever, 413; diphtheria, 5,368, or 185 to 1,000,000, the same rate as in 1888, but, with this exception, larger than in any year since 1865; whooping cough, 12,225, or 421 per 1,000,000, as compared with 461, the average rate for the previous 10 years; enteric fever, 5,011; and diarrhea and dysentery, 18,434. Hydrophobia caused 30 deaths.

In constitutional diseases, the mortality from phthisis was at the same rate as in 1888, and, with this exception, at its minimum. The deaths ascribed to cancer numbered 18,654, or 643 to 1,000,000, showing a further increase upon the ever-growing rates previously recorded. In 1865 the rate was only 372 per 1,000,000, and, without any exception, has increased year by year to its present large proportions.

The deaths from violence were 17,497, or in the proportion of 603 to 1,000,000, and included 2,170 persons who committed suicide. Twelve men were executed during the year, while 172 persons were found to have been murdered, including 74 infants. The proportion of deaths from violence shows a continuous decline. The mean of the 10 years 1871–'80 was 736 per 1,000,000.

The names in the indexes of births, deaths, and marriages at Somerset House numbered, at the end of 1889, 79,386,263. The number of searches was 41,002; certificates issued, 30,491; and amount of fees received for searches, $29,420.

Table showing the strength of the army, navy, and merchant service in 1889.

Class.	Employed.	Deaths.*	Births.
Army	210,298	1,961	
Navy	†50,790	271	
Merchant service	230,263	3,018	
Passengers		484	128

* The death rate per 1,000 in the army was 9.3, navy, 5.3, and merchant service, 13.1.

† Average force afloat.

Table showing the population, marriages, births, and deaths in the United Kingdom.

Division.	Estimated population.	Persons married.	Births.	Deaths.	Proportion per 1,000 of population of—		
					Persons married.	Births.	Deaths.
1888.							
England and Wales	28,608,804	409,642	879,868	510,971	14.2	30.6	17.8
Scotland	4,034,156	50,610	123,269	71,174	12.5	30.6	17.6
Ireland	4,777,534	40,120	109,557	85,892	8.4	22.9	18
Total	37,440,494	498,372	1,112,694	668,037	13.3	29.6	17.8
1889.							
England and Wales	39,015,613	427,730	855,914	518,313	14.7	30.5	17.9
Scotland	4,077,070	32,636	122,770	73,203	12.9	30.1	18
Ireland	4,730,566	43,042	107,841	82,908	9.1	22.8	17.5
Total	37,823,249	523,408	1,116,555	674,464	13.8	29.5	17.8

Table showing the population, etc., of islands in the British seas in 1889.

Islands.	Population.	Births.	Deaths.
Isle of Man	53,558	1,578	1,010
Jersey	52,445	1,415	1,039
Guernsey and adjacent islands	35,257	798	635
Total	141,260	3,791	2,687

Table showing the mortality in England and Wales in 1889.

Cause of death.	Total deaths in 1889.	Rate per 1,000,000.				
		1889.	1888.	1887.	1886.	1885.
Zymotic diseases	69,776	2,405	2,097	2,660	2,648	2,507
Parasitic diseases	707	25	25	29	35	30
Dietetic diseases	1,898	66	62	63	59	59
Constitutional diseases	91,667	3,158	3,111	3,166	3,330	3,276
Developmental diseases	44,099	1,520	1,543	1,555	1,618	1,598
Local diseases	267,243	9,212	9,479	9,720	9,915	9,908
Violence	17,497	603	611	642	626	625
Ill-defined and not specified causes	25,466	876	871	955	1,047	1,007
Total	518,353	17,865	17,799	18,790	19,278	19,010

Cause of death.	Rate per 1,000,000—Continued.				
	1884.	1883.	1882.	1881.	Mean, 1871–'80.
Zymotic diseases	3,094	2,639	3,088	2,660	3,724
Parasitic diseases	38	39	37	39	57
Dietetic diseases	58	66	68	66	63
Constitutional diseases	3,404	3,407	3,395	3,328	3,504
Developmental diseases	1,574	1,632	1,558	1,582	1,674
Local diseases	9,543	9,890	9,591	9,348	9,970
Violence	651	675	669	697	736
Ill-defined and not specified causes	1,149	1,188	1,154	1,160	1,610
Total	19,511	19,536	19,560	18,880	21,378

Table showing the number of persons married, births, and deaths per 1,000 of population in the United Kingdom and other European countries.

Countries.	1861 to 1880.*	1886.	1887.	1888.	1889.
Persons married:					
United Kingdom	15.1	13.1	13.3	13.3	13.8
England and Wales	16.4	14.1	14.2	14.2	14.7
Scotland	14.2	12.4	12.5	12.5	12.9
Ireland	9.8	8.4	8.7	8.4	9.1
Denmark	15.3	14.2	14	14.2	14.2
Norway	14.5	13	12.5	12.2	12.4
Sweden	13.4	12.8	12.5	11.8	....
Austria	17.1	15.6	15.6	15.8	15
Hungary	19.2	19.1	17.9	18.5	....
Switzerland	15.1	13.8	14.2	14.1	14.1
German Empire	17.4	15.8	15.6	15.7	16.1
Prussia	17.2	16.3	16	16.1	16.4
The Netherlands	16.2	13.9	14	13.8	13.9
Belgium	14.6	13.4	14.2	14.2	14.5
France	15.8	14.8	14.5	14.4	14.2
Italy	15.2	15.6	15.7	15.6	15
Births:					
United Kingdom	33.8	31.2	30.3	29.6	29.5
England and Wales	35.3	32.4	31.4	30.6	30.5
Scotland	34.9	32.4	31.2	30.6	30.1
Ireland	26.2	23.3	23.[illegible]	22.9	22.8
Denmark	31.4	32.6	32.9	31.7	31.3
Norway	30.8	30.9	30.8	30.8	29.7
Sweden	30.9	29.8	29.7	28.8	....
Austria	38.9	38	38.2	37.9	37.9
Hungary	43.7	45.2	43.9	43.4	....
Switzerland	30.6	27.8	27.9	27.7	27.6
German Empire	39.6	37.1	37	36.7	36.5
Prussia	38.6	37.7	37.7	37.5	37.2
The Netherlands	35.8	34.6	33.7	33.7	33.2
Belgium	31.8	29.6	29.4	29.1	29.5
France	25.9	23.9	23.5	23.1	23
Italy	37.1	36.4	38.3	36.6	37.3
Deaths:					
United Kingdom	21.2	19	18.7	17.8	17.8
England and Wales	21.0	19.3	18.8	17.8	17.9
Scotland	21.9	19.6	18.7	17.6	18
Ireland	17.5	17.9	18.3	18	17.5
Denmark	19.7	18.2	18.3	18.7	18.6
Norway	[illegible]	16.1	16	16.9	17.4
Sweden	[illegible]	16.6	16.1	16	....
Austria	31.1	29.4	28.8	29.2	27.3
Hungary	[illegible]	31.4	33.3	31.7	....
Switzerland	[illegible]	20.7	[illegible]	[illegible]	20.3
German Empire	[illegible]	26.2	24.2	23.8	2[illegible].8
Prussia	[illegible]	26.1	[illegible]	[illegible]	23.2
The Netherlands	24.7	21.8	19.7	20.4	20.1
Belgium	22.8	21.1	19.3	20.1	19.1
France	23.6	22.5	22	21.[illegible]	20.5
Italy	30	28.3	27.[illegible]	26.8	24.9

* Average.

Table showing the condition of the primary schools in the United Kingdom.

Division.	Year ended.	Number of schools inspected.	Number of children who can be accommodated.	Average number of children in attendance.	Number of children present at inspection.
England and Wales	Aug. 31, 1889	19,310	5,440,441	3,682,625	4,307,979
Scotland	Sept. 30, 1889	3,116	706,085	503,100	572,561
Ireland	......do......	8,251	1,053,399	507,865	553,681
Total		30,677	7,199,925	4,693,590	5,434,221

The amount of Parliamentary grants for primary schools in England and Scotland was $21,296,040; for Ireland, $4,513,495; total, $25,811,535.

Table showing the number of paupers (exclusive of vagrants) in the United Kingdom.

Division.	Able-bodied adults.			All other paupers.		
	Indoor.	Outdoor.	Total.	Indoor.	Outdoor.	Total.
England and Wales (January 1, 1890)	25,917	71,828	97,745	169,131	520,669	689,800
Ireland (close of first week in January, 1890)	6,817	....	....	38,744	....	....

Division.	Total.		
	Indoor.	Outdoor.	Total
England and Wales (January 1, 1890)	195,048	592,497	787,545
Scotland (May 14, 1889)	....	....	94,836
Ireland (close of first week in January, 1890)	45,561	62,213	107,774
Total	....	....	990,155

The total amount spent in actual relief of poor was: England and Wales, $41,832,385; Scotland, $4,414,180; Ireland, $5,106,800.

Table showing the number of criminal offenders committed for trial, convicted, and acquitted in the United Kingdom in 1889.

Division.	Committed for trial.			Convicted.	Acquitted.
	Males.	Females.	Total.		
England and Wales	10,192	1,907	12,099	9,348	2,709
Scotland	1,822	412	2,234	1,723	484
Ireland	1,801	380	2,181	1,225	889
Total	13,815	2,699	16,514	12,296	4,072
Total for 1888	15,500	2,790	18,290	13,634	4,531

EMIGRATION.

The total number of emigrants in 1889 was 342,641, British and Irish emigrants numbering 253,795 and foreigners 88,846, a decrease, when compared with the previous year, of 26,133 and 29,720, respectively. Immigrants numbered 147,398, British and Irish numbering 103,070 and foreigners 44,328, an increase of 8,937 and 9,582, respectively. Thus the net emigration showed a decrease, when compared with 1888, of 35,070 emigrants of British and Irish origin and of 39,302 of foreign origin, or, together, a total of 74,372.

Of the net emigration, 97,379 persons of British and Irish origin went to the United States, against 131,955 in 1888.

The following tables show the total emigration and immigration, occupation of emigrants, etc., in 1889:

Number of persons leaving the United Kingdom for places out of Europe.

Nationality.	To United States.	To British North America.	To Australasia.	To Cape of Good Hope and Natal.	To all other places.	Total.	Total for 1888.
English	93,307	22,417	23,103	12,775	11,916	163,518	170,882
Scotch	17,567	3,649	2,374	979	785	25,354	35,873
Irish	57,897	2,203	2,817	130	1,876	64,923	73,233
Total	168,771	28,269	28,294	13,884	14,577	253,795	279,928
Foreigners	69,792	9,787	540	1,758	1,589	83,466	113,230
Not distinguished	1,832	....	....	29	3,519	5,380	5,336
Grand total	240,395	38,056	28,834	15,671	19,685	342,641	398,494

Number of persons arriving in the United Kingdom from places out of Europe.

Nationality.	From United States	From British North America.	From Australasia.	From Cape of Good Hope and Natal.	From all other places.	Total.	Total for 1888.
British and Irish	71,392	8,642	10,438	4,869	7,729	103,070	94,133
Foreigners	40,301	385	199	836	1,401	43,122	33,895
Not distinguished	....	....	....	....	1,206	1,206	851
Total	111,693	9,027	10,637	5,705	10,336	147,398	128,879

Net emigration.

Country.	Total emigration and immigration.			Emigration and immigration of persons of British and Irish origin.		
	Emigrants.	Immigrants.	Excess of emigrants.	Emigrants.	Immigrants.	Excess of emigrants.
United States	240,395	111,693	128,702	168,771	71,392	97,379
British North America	38,056	9,027	29,029	28,269	8,642	19,627
Australasia	28,834	10,637	18,197	28,294	10,438	17,856
Cape of Good Hope and Natal	15,671	5,705	9,966	13,884	4,869	9,015
All other places	19,685	10,336	9,349	14,577	7,729	6,848
Total	342,641	147,398	195,243	253,795	103,070	150,725

Occupations of adult passengers leaving the United Kingdom for the United States.

Occupation.	British and Irish.	Foreigners.	Total.
Males:			
Agricultural laborers, etc	12,121	258	12,379
Bakers	248	68	316
Blacksmiths and farriers	127	4	131
Boot and shoe makers	142	61	203
Bricklayers, masons, etc	1,342	203	1,545
Butchers, etc	255	49	304
Carpenters and joiners	1,156	140	1,296
Clerks and agents	1,756	79	1,835
Clock and watch makers	57	14	71
Domestic servants	354	33	391
Engine drivers	79	1	80
Engineers	444	165	609
Farmers and graziers	3,267	1,408	4,675
Gentlemen, professional men, merchants	4,970	1,459	6,429
Laborers, general	28,344	21,096	49,440
Mechanics	6,735	6,479	13,214
Millers, etc	62	79	141
Miners and quarrymen	1,500	758	2,258
Painters, etc	659	402	1,061
Printers	164	7	171
Railway servants	34	1	35
Seamen	271	60	331
Shopkeepers, etc	860	567	1,427
Smiths, general	119	130	249
Spinners and weavers	438	20	458
Tailors	381	250	631
Other trades and professions	1,022	69	1,091
Occupation not stated	16,953	4,335	21,288
Females:			
Domestic and farm servants, nurses, etc	18,195	4,628	22,823
Milliners, etc	914	58	972
Spinners and weavers	506	3	509
Other trades and professions	314	81	395
Occupation not stated	40,524	17,330	57,854
Total	144,313	60,295	204,608

STRIKES.

The total number of strikes in 1889 was 1,145, of which number 223 occurred in the textile trades, 111 in coal-mining, 107 in shipbuilding, 97 in engineering, 86 in dock and wharf laborers, and 43 in seamen and firemen trades. These six groups have thus furnished 60 per cent. of the total strikes.

The large number of strikes was undoubtedly due to the revival in trade, which commenced in 1887 and has continued without check to the present time. The demand for men in some trades has been very great; in some cases, even, the supply has been unequal to the demand, notably so in the shipbuilding and iron and steel trades and dependent industries. In the shipbuilding and boiler-making trades, for instance, the unemployed statistics of the society representing the trade show that, whereas in 1884 the monthly average of members out of work was 23¾ per cent.; in 1885, 26¾ per cent.; and in 1886, 28 per cent.; in 1887 the average fell to 21½ per cent.; in 1888, to 7¾ per cent.; in 1889, to 2⅓ per cent.; and in March, 1890, to 0.85 per cent.

The following table gives the proportion of unemployed workmen at different times, as shown by the monthly reports of some of the chief trades unions:

Month.	1887.	1888.	1889.	1890.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
January	9.9	6.8	3.3	1.75
February	10.3	7.8	2.1	1.44
March	8.5	7	2.8	1.4
April	7.7	5.7	2.2	1.7
May	6.8	5.2	2	1.96
June	8.5	4.8	2	1.88
July	8	4.6	1.8	2.28
August	8.5	3.9	2.5	....
September	8.3	4.8	2.1	....
October	7.5	4.4	1.7	....
November	8.6	4.4	1.8	....
December	8.5	3.1	1.5	....

The principal strikes in London were those of the dock-laborers and gas-workers. The dock-laborers' strike was specially reported on by me at the time, but it may be interesting to recall one or two of the chief points in connection with it. The dock-laborers were composed of about 100,000 men, totally unorganized, earning from 8 to 10 cents per hour when employed, their earnings throughout the year averaging about $1.75 per week. That a great deal of discontent should exist among these men was only what was to be expected, and this discontent was brought to a head in August, 1889, when, certain leaders having arisen, a strike was ordered, the principal demand being for 12 cents per hour, with a minimum payment of 50 cents. Public sympathy was with the men on strike, and the total subscribed to the strike fund was $243,680, of which amount $58,660 was subscribed by the public, $21,170 by various labor societies, the remainder, and by far the largest amount, coming from the Australian labor societies. The strike, which lasted for 5 weeks, was entirely successful.

Attention may here be drawn to one of the results of the dock strikes in London and elsewhere.

To protect themselves from the action of the dock-laborers, stokers, and firemen, and affiliated trades unions, the shipowners of the United Kingdom have formed an alliance under the title of the Shipping Federation, the object being to help one another in case they are attacked by the before-mentioned unions. This federation is becoming more powerful every day, and a few months ago, when there was a good deal of irritation among the dock-laborers at Liverpool and elsewhere, it was said that the whole of the firms federated were prepared to lay up their ships for the winter rather than submit to the inconveniences put upon them by the action of the dock-laborers and others. Matters have, however, since become quieter, and the adoption of a system of coöperation at the London docks—which has, so far, met with success, and which will, no doubt, be gradually extended to other places—points to a continuance of quiet times, at any rate for the present.

The South Metropolitan Gas strike, which arose through a dispute between the gas company and the gas-stokers' union, and which at one time threatened to become very serious through the partial stoppage of the supply of gas in the south of London, ended in the defeat of the gas-stokers, the company being able to obtain more men than were required to fill the places of the strikers, principally from the agricultural districts; but the total loss to the company through the strike was estimated at $375,000.

In this regard, I may mention that the gas-stokers' strikes in London, Manchester, and other places have led largely to the introduction of labor-saving machinery into the gas works of this country, the systems in use in some of the largest works in the United States being adopted; but, in spite of this, I was informed recently that the amount of wages paid by one of the largest London gas companies had increased by $1,500,000 annually, which, added to an increase in the price of coal of $1.75 per ton, has caused them to advance their price for gas this winter.

The principal object of strikes in 1889 was for advances in wages. There were in all 619 strikes with this object, or rather more than half of the total strikes, of which number 299 were successful, 195 partly successful, 66 unsuccessful, and 59 in which the results were not known. Of the total number of strikes, 62.3 per cent. were settled by conciliation.

In 930 cases, in which 344,840 persons were on strike, it is estimated that $5,612,500 were lost in wages alone.

The following table gives the causes or objects of strikes in 1889, and whether successful or unsuccessful:

Cause or object.	Total number.	Number successful.	Number partially successful.	Number unsuccessful.	Result not known.
For advance in wages	619	299	195	66	59
For advance in wages and other concessions	149	43	95	10	1
Against reduction in wages	45	12	8	20	5
Disputes as to wages	36	20	10	4	2
Dissatisfaction with conditions of work, hours, etc.	139	62	31	42	[illegible]
Against alteration in conditions of working	41	16	9	15	1
Disputes between classes of work people as to prices, etc.	18	9	4	3	2
For introduction of union rules	29	5	2	17	5
Defense of, or objection to, fellow-workmen	29	7	6	12	4
Dissatisfaction with superior officials	12	3	1	8	....
In defense of superior officials	3	....	....	3	....
Sympathy with, or intimidation in consequence of, prevailing strikes	20	....	7	5	[illegible]
Cause not known	5	....	....	2	3
Total	1,145	476	368	207	94

BANKRUPTCY.

The total number of cases of bankruptcy, etc., in 1889 was 7,857, with liabilities amounting to $55,511,200, a decrease, as compared with the previous year, of 464 cases and in liabilities of $4,060,945. The amount of assets was $23,544,405, an increase of $246,895, leaving the estimated loss to creditors at $39,665,020, or $4,102,120 less than in 1888.

The percentage of cases under the value of $250 dealt with by the bankruptcy court was 53.41.

The trades and occupations in which the greatest number of failures have occurred were: Grocers, etc., 335; publicans and hotel-keepers, 273; farmers, 247; builders, 239; boot and shoe manufacturers and dealers, 147; bakers, 127; drapers, haberdashers, etc., 117; tailors, etc., 96; agents, 86; decorators, painters, etc., 85. These trades furnished about 41 per cent. of the total failures in 1888 and 1889.

The following tables show the total amount of insolvency, average per estate realized, estimated loss to creditors, etc., for a series of years:

Amount of insolvency for 1888 and 1889.

Year.	Number of cases.	Liabilities.	Assets.	Estimated loss to creditors.
1888	8,321	$59,572,145	$23,297,510	$43,767,140
1889	7,857	55,511,200	23,544,405	39,665,020
Increase	....	....	246,893	....
Decrease	464	4,060,945	....	4,102,120

Number of bankruptcies, etc., with amount of liabilities and assets in each year from 1885 to 1889.

Year.	Number of cases.				Liabilities.			
	Bankruptcies.	Liquidations.	Compositions.	Total.	Bankruptcies.	Liquidations.	Compositions.	Total.
1885	3,965	78	290	4,333	$37,484,060	$3,737,855	$3,967,030	$45,188,945
1886	4,566	61	189	4,816	33,364,335	2,961,765	3,243,255	39,569,355
1887	4,681	31	127	4,839	40,643,970	2,280,195	1,754,960	44,679,125
1888	4,695	27	104	4,826	32,920,640	906,355	1,727,745	35,554,740
1889	4,415	30	75	4,520	27,407,045	3,116,040	1,118,380	31,641,460

Year.	Assets.				Percentage of total assets to total liabilities.
	Bankruptcies.	Liquidations.	Compositions.	Total.	
1885	$12,078,090	$1,918,020	$1,469,645	$15,465,755	34.2
1886	13,506,490	2,409,875	1,359,435	14,275,800	36.1
1887	11,838,340	855,385	642,185	13,335,810	29.8
1888	10,066,970	326,765	820,000	11,213,735	31.5
1889	8,103,170	1,367,900	449,730	9,950,800	31.4

Estimated annual loss to creditors through bankruptcy proceedings.

Description.	1885.	1886.	1887.	1888.	1889.
Assets:					
Liquidations	$1,918,020	$2,409,875	$855,385	$326,765	$1,367,900
Bankruptcies	12,078,090	10,506,490	11,838,240	10,066,970	8,133,170
Total	13,996,110	12,916,365	12,693,625	10,393,735	9,501,070
Amount after deduction of one-third for expenses of realization	9,330,740	8,610,910	8,462,415	6,929,155	6,334,045
Compositions	1,469,645	1,359,435	642,185	820,000	449,730
Total assets for dividends	10,800,385	9,970,435	9,104,600	7,749,155	6,783,775
Liabilities	45,188,945	39,569,355	44,679,125	35,554,740	31,641,465
Net estimated loss to creditors	34,388,560	29,599,010	35,574,525	27,805,585	24,857,690

Average per estate realized and amount expended in costs of estates closed by bankruptcy court.

Year.	Number of estates closed.	Percentage of cases under $250.	Average amount per case realized.	Average costs per case.
1884	574	37.98	$583.00	$170.50
1885	1,593	48.4	484.50	153.50
1886	2,657	48.47	467.50	158.50
1887	3,618	51.32	450.50	160.50
1888	3,529	49.98	459.00	166.50
1889	3,814	53.41	433.00	160.50

Average amount per case of liabilities and assets in bankruptcy.

Description.	1885.	1886.	1887.	1888.	1889.
Bankruptcies:					
Average liabilities	$9,455	$7,305	$8,685	$7,010	$6,205
Average value of estates	3,045	2,300	2,530	2,145	1,840
Liquidations or schemes of arrangement:					
Average liabilities	47,920	48,555	73,555	33,570	103,865
Average value of estates	24,590	39,505	27,595	12,100	45,595
Compositions:					
Average liabilities	13,680	17,160	13,820	16,615	14,910
Average value of estates	5,070	7,195	5,055	7,885	5,995

PATENTS.

The number of applications for patents in 1889 was 21,008, exceeding those of 1888 by nearly 10 per cent.

The number of applications from persons resident in the United Kingdom was 16,019, an increase of 1,168 when compared with 1888. The applications from foreign countries numbered 4,989, of which number 1,857 were from the United States. The number of applications from the United States in 1888 was 1,457.

The revenue of the patent office from all sources was $864,100 and the expenses $396,430, thus leaving a surplus of $467,670.

The following table gives the total number of applications for patents, designs, and trade-marks in each year from 1884 to 1889:

Year.	Patents.	Designs.		Trade-marks.
		Single.	Sets.	
1884	17,110	19,515	238	7,104
1885	16,101	20,388	337	8,026
1886	17,176	23,717	324	10,677
1887	18,051	25,734	309	10,586
1888	19,103	25,923	316	13,315
1889	21,008	24,370	335	11,316

Under authority of the patents, designs, and trade-marks act, 1888, the board of trade have drawn up certain rules relating to the registration of patent agents, which provide that the registrar of the institute of patent agents shall keep a list of all patent agents permitted to practice as such. In order to obtain registration, a person must give proof that prior to the passing of the act he had been practicing as a patent agent, or otherwise he must pass an examination to be fixed by the institute of patent agents. No other person is now allowed to practice as a patent agent. The rules also provide for the striking off of any person's name who has been proved to have been guilty of any misdemeanor or disgraceful professional conduct. The fees payable for registration of name of patent agent are £5 5*s.* on registration and an annual fee of £3 3*s.*, equal, respectively, to $26.25 and $15.75.

NATIONAL DEBT.

The total amount of the national debt at the close of the financial year ended March 31, 1890, was $3,449,720,130, a reduction in the year of $42,432,725. The permanent annual charge of the debt was reduced to $125,000,000, of which sum $121,498,165 were actually expended on the service of the debt and $3,501,835 carried to the new sinking fund.

The total amount of the national debt for each financial year ended March 31 was:

Year.	Funded debt.	Capital value of terminable annuities.	Unfunded debt.	Total.
1886	$3,194,248,470	$429,149,585	$88,014,000	$3,711,412,055
1887	3,188,188,200	405,615,740	87,589,500	3,681,393,440
1888	3,048,703,715	392,246,150	86,925,500	3,527,875,365
1889	3,035,289,055	376,397,190	80,466,610	3,492,152,855
1890	2,929,799,260	358,659,345	161,261,525	3,449,720,130

REVENUE.

The gross revenue for the year ended March 31, 1890, amounted to $446,521,580, and exceeded the gross expenditure by $16,105,010.

The receipts from customs were $102,120,000, an increase of $2,421,860 as compared with the previous year. Excise showed an apparent decrease of $6,705,855, but this was brought about by the transference of nearly $15,000,000 to the local taxation account. The total applied to imperial purposes was $120,666,160. Stamps showed an increase of $4,003,690, the total amount being $65,208,460.

The charges for collection of revenue amounted to $54,790,480, a decrease of $152,880 compared with 1889.

The following statement shows the public revenue and expenditure of the United Kingdom for the year ended March 31, 1890:

Debit.

National debt services	$126,133,800
Civil list and civil administration	85,370,920
Army	86,804,560
Navy	69,211,205
Annuity under Indian army pension deficiency, etc	750,000
Naval defense fund	7,142,855
Expenditure under national debt conversion act and redemption act	212,750
Total	375,626,090
Charges for collection of revenue	54,790,480
Balance in hand March 31, 1890	16,105,010
Grand total	446,521,580

Credit.

Customs	102,120,000
Excise	120,800,000
Stamps (inland revenue)	65,300,000
Land tax	5,175,000
House duty	9,825,000
Property and income tax	63,850,000
Post-office	47,250,000
Telegraph service	11,600,000
Crown lands	2,150,000
Interest on advances, etc	1,395,775
Fee and patent stamps	3,891,365
Receipts by civil departments	13,164,440
Total	446,521,580

Table showing the charges for the collection of the revenue in 1889 and 1890.

Revenue.	Year ended March 31—		Increase or decrease.
	1890.	1889.	
Customs	$4,529,560	$4,634,945	— $105,385
Inland	8,744,895	8,956,665	— 211,770
Post-office	27,316,025	28,339,240	—1,023,215
Telegraphs	10,880,000	9,825,000	+1,055,000
Packet service	3,320,000	3,187,510	+ 132,490
Total	54,790,480	54,943 360	— 152,880

Table showing the customs receipts for 1889 and 1890.

Articles	Year ended March 31—		Increase or decrease.
	1890.	1889.	
Tea	$23,149,505	$22,452,530	— $696,975
Coffee	921,460	864,160	— 57,300
Spirits, foreign	21,483,170	23,406,125	+1,922,955
Wine	6,052,685	6,510,800	+ 458,115
Tobacco and snuff	44,293,905	45,309,920	+1,016,015
Currants, raisins, and dried fruits	2,897,145	2,674,155	— 222,990
Other articles	899,000	915,785	+ 16,785
Miscellaneous receipts	150,085	144,340	— 14,741
Total	99,855,955	102,277,815	+2,421,860

Table showing the excise receipts for 1889 and 1890.

Articles.	Year ended March 31—		Increase or decrease.
	1890.	1889.	
Spirits	$69,300,010	$64,395,765	+$4,904,245
Beer	47,052,130	43,851,475	+ 3,200,655
Licenses*	2,651,225	17,528,125	—14,876,900
Railways	1,622,305	1,557,530	+ 64,775
Coffee mixture labels and chicory	19,710	18,670	+ 1,040
Other receipts	20,780	20,450	+ 330
Total	120,666,160	127,372,015	— 6,705,855

* The revenue arising from licenses for sale of alcoholic liquors is now applied to local taxation.

Table showing the stamp receipts for 1889 and 1890.

Description.	Year ended March 31—		Increase or decrease.
	1890.	1889.	
Deeds and other instruments	$17,650,245	$15,765,420	+$1,884,825
Probate duty	11,322,005	14,105,195	— 2,783,190
Estate duty	3,950,090		+ 3,950,090
Legacies and successions	18,945,275	18,684,235	+ 261,040
Life insurances	227,285	226,140	+ 1,145
Marine insurances	706,850	646,015	+ 60,835
Bills of exchange, etc.	4,338,430	4,117,400	+ 221,030
Receipts and drafts	5,396,450	5,206,235	+ 190,215
Other receipts	2,671,830	2,454,130	+ 217,700
Total	65,208,460	61,204,770	+ 4,003,690

Table showing the average minimum rate of discount charged by the Bank of England from 1886 to 1889, inclusive.

Months.	1886.	1887.	1888.	1889.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
January	3⅞	5	3⅜	4 1/10
February	2⅝	4	2⅜	[illegible]
March	2	3½	2⅛	3
April	2	2⅞	2	2⅝
May	2⅝	2	2⅜	2½
June	2⅞	2	2⅜	2½
July	2½	2	2½	2½
August	2⅞	2⅝	2⅝	3
September	3½	4	3⅜	4 1/10
October	3⅞	4	5	5
November	4	4	5	5
December	4½	4	5	[illegible]
Average	3	3⅓	3⅛	3½

Table showing the average price per £100 of the new 2¾ per cent. consolidated stock in 1889 and 1890.

Months.	1888.	1889.
January	....	98⅝
February	....	99
March	100⅝	97⅝
April	100 1/16	98½
May	99¼	99
June	99 9/16	98¼
July	99 9/16	98⅞
August	99⅜	98 1/16
September	98	97
October	97¼	97
November	97	97
December	96 7/16	97⅝
Average	....	98

Table showing the amounts cleared at the London bankers' clearing house.

Years.	Amount cleared—			Total.
	On fortnightly stock exchange selling days.	On consols selling days.	On the 4th of each month.	
1885	$4,675,000,000	$1,245,000,000	$1,110,000,000	$27,555,000,000
1886	5,995,000,000	1,315,000,000	1,080,000,000	29,510,000,000
1887	5,730,000,000	1,485,000,000	1,280,000,000	30,385,000,000
1888	6,260,000,000	1,660,000,000	1,360,000,000	34,710,000,000
1889	6,695,000,000	1,760,000,000	1,450,000,000	38,095,000,000

JNO. C. NEW,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, December 30, 1890.

SHEEP AND WOOL IN ASIA.

SHEEP AND WOOL IN SIVAS.

REPORT BY CONSUL JEWETT.

The province of Sivas occupies the east central part of Asia Minor, extending from the Black Sea on the north to the Anti-Taurus Mountains on the south. It has about the same latitude as Pennsylvania and, generally speaking, about the same climate. Its area is some 200 miles north and south and 150 miles east and west. Its surface is broken by many ranges of hills and mountains intersected by numerous valleys and passes. Its principal river, the Kizil-Irmak (ancient Halys), describes a great curve through it, so that a large part of the province is traversed by it. Hundreds of smaller streams flow into the Kizil-Irmak, affording an abundance of water for the requirements of sheep and cattle. Sheep-raising is carried on in all parts of the district.

The number of sheep in a flock varies from 300 to 800, according to the custom prevailing in the several districts. There are 2 shepherds to each flock. Sheep sell for $1 to $1.60 each. Fleeces weigh from 4 to 7 pounds each.

Table showing the number of sheep and goats in the province of Sivas.

Name of *kaza*	Sheep.	Goats.	Mohair goats.
Sivas	707,946	38,536	6,618
Azizieh	141,530	66,684	1,302
Kotchkir	69,690	75,393	....
Gurun	32,715	11,295	3,061
Hafik	72,327	77,631	60
Darendé	10,556	6,535	....
Divrik	30,725	41,466	....
Tounus	76,841	25,850	11,860
Yildiz-elle	71,873	46,049	4,959
Tokat	71,551	90,216	2,708
Ziélleh	24,666	62,498	8,097
Erbaa	52,726	36,525	106
Niksar	32,190	19,834	78
Amasia	46,570	67,434	8,884
Ladik	7,991	6,690	53
Khansa	10,139	17,579	15
Marsivan	13,535	10,766	1,770
Kenpru	19,571	27,791	1,020
Gumush	19,592	21,501	793
Osmanjik	16,989	21,711	7,136
Medjid Ensu	18,674	48,938	2,489
Karahizzar	19,641	25,378	....
Harmdié	40,100	25,950	3
Sonshehr	31,003	26,405	....
Koïlahizzar	16,810	31,681	....
Aljura	15,360	34,221	....
Total	1,071,265	965,055	61,010

Besides these, there are numerous flocks belonging to nomad Kurds, who drive their flocks from one part of the country to another in search of pasturage. These are not within the control of the Government, and the sheep tax can only irregularly be collected, so that the number of these sheep can not be ascertained. They, however, form but a small proportion of the whole. The sheep tax collected the past year amounted to $322,489.20.

METHODS.

Shearing is done by hand, usually in May or June. In some districts the wool is kept clean on sheep by driving them daily through a stream; in others the sheep are washed previous to shearing. In some places the wool is not washed preparatory to marketing.

This report has been long delayed by reason of an endeavor to obtain from the *mudirs* in the several *kazas* information as to the different local methods and customs as relates to sheep and wool. The replies, however, have been few and meager. Those received give the following details as to the methods in vogue in the *kazas* named:

Azizieh.—Number of flocks, 398; average number to flock, 400. At Moosoudgili the wool is washed before shearing; in other places the wool is sheared and sold without washing. Wool is used locally for making a cloth of white, gray, and black (natural colors), also for making mattresses. At Sarij and Saidabbud carpets and curtains are made.

Hafik.—Sheep are raised principally near the towns of Courmasli and Tojaki. Flocks are, as a rule, larger than in other districts. Wool is sold unwashed and is manufactured into socks and carpets.

Darendé.—Sheep are kept in all parts of the *kaza*. Flocks consist of about 500 sheep each; cost per sheep averages 30 piasters ($1.30). Wool is sheared in June. Unwashed wool sells for 22 to 28 piasters (96 cents to $1.20) the batman, which is equal to 6 to 8 cents per pound. Mattresses and socks are manufactured. Different styles of the cheaper sort of carpets are made with handlooms at Agdeh-dagh, near Darendé.

Zara.—A flock is estimated by merchants as having 500 sheep. Wool is sold to the merchants of Sivas. Ten thousand sheep are annually sold to Konieh. The wool is washed before selling. Carpets and socks are manufactured.

Divrik.—Sheep are principally owned by Dirdjan Kurds. Flocks are small, averaging about 200 each. Shearing is done in June. Wool is sold unwashed. Socks and cloth are manufactured.

COMMERCIAL DESIGNATIONS.

There are no special designations of wool, except washed and unwashed. Washed wool is termed "yiapak yikanmin" and unwashed "yikan-mamin."

USES OF WOOL.

Wool is used locally very largely for making yarn. This is spun upon a distaff, of which there are two kinds, called "karman" and "chikvik," both of very rude form. Nearly every woman has one and employs her leisure time in making yarn. The product is very coarse and rough and not used except for the coarsest cloths. It is largely used in knitting the coarse socks used by the natives. The yarn is dyed at home. A sample of these socks is sent herewith. Much of the wool exported comes back in the form of yarn manufactured at Manchester, England. The looms are of the simplest construction and are all operated by hand. No shuttle is used, the thread being passed by hand. The Manchester yarn is very extensively used at Gurun in weaving cloth of a comparatively fine quality. Samples of the cloths produced there are sent herewith. Some 4,000 bundles of yarn are imported annually. There are 500 looms (hand) in the town, and about 20,000 arshins (1 arshin=28 inches) of cloth are manufactured annually at an average value of 45 cents per arshin. The cloths are 1 arshin in width. There is also at that town a large industry in making the shawl-like girdles worn by both sexes; these are made from native yarn or native and Manchester mixed. The annual production is 400,000 pieces. Native yarn is also used throughout the province for making rugs and carpets; these are made on handlooms worked by women and girls in their own houses. There are no figures available to show the amount of the annual product, but it is very considerable, as every village has a number of looms.

Coarse varieties of cloth are also manufactured in Sivas, Tocat, and many other towns. These are usually very narrow, often not more than 8 inches in width. The yarn for these cloths is not dyed.

The export of wool from the port of Samsoon amounted, in 1889, to 378 tons and of mohair to 317 tons. Most of this goes to Smyrna in the first instance.

HISTORICAL.

In early times Asia Minor was celebrated for its fine breeds of sheep and the high quality of its wool, but since many centuries the fat-tailed variety of sheep has replaced all the finer breeds. Nothing has been done to improve the quality. The well-known characteristic of this breed is the enormous tail, which is one mass of fat. These tails will sometimes weigh as much as 18 pounds each and give some weight of credibility to Heroditus's story that in Cilicia the sheep had little carts attached to them that they might the more easily carry their tails. Some shepherds practice cutting off a part of the tails of lambs, severing them at the third or fourth vertebra. This is done from the belief that a large part of a sheep's nourishment goes to the benefit of the tail. It is said, as an evidence of this, that it has been noticed that during times of drought, when pasturage is scant, the sheep's body in general does not comparatively show the effects of lack of food, but that the tail becomes smaller and thinner.

ANGORA.

The finest variety of wool produced in Asia Minor is that of the mohair goat, generally known as the Angora goat. This variety flourishes in large numbers only in the Angora district, though small flocks of them are to be seen in most all the other parts of Asia Minor. In this province there are some 60,000 only. This breed is a new importation compared to the fat-tailed sheep. No historical notice of them exists prior to the sixteenth century, when the French traveler Pierre Belon refers to them. The Byzantine writers are silent in regard to them, so that it seems probable that they were introduced by the Turks when they became masters of the country.

H. M. JEWETT,
Consul.

UNITED STATES CONSULATE,
Sivas, January 1, 1891.

THE WOOL TRADE OF INDIA.

REPORT BY ACTING CONSUL BALLANTINE, OF BOMBAY.

With reference to the Asiatic sheep and wool circular of the Department, dated September 19, 1890, I have now the honor to forward for your information the accompanying copy of a letter received from the director of land records and agriculture, Bombay. I have also forwarded in a separate cover a copy of the pamphlets referred to by Mr. Ozanne.

H. BALLANTINE,
Acting Consul.

UNITED STATES CONSULATE,
Bombay, November 22, 1890.

LETTER FROM LAND DIRECTOR OZANNE.

[Inclosure 1 in Acting Consul Ballantine's report.]

POONA, *November 7, 1890.*

SIR: With reference to your letter dated 24th ultimo, I regret to have to inform you that the information asked for in the circular forwarded with a copy of Mr. Ballantine's letter is not available. This presidency, you are aware, is not a wool-producing province, and the small exports claimed by it chiefly come from Cutch and Kathiawar. The wool produced in the other parts of the presidency is coarse and just sufficient to meet the local demand for inferior blankets. The superior Karmatak blankets, mostly in native use, come from the Mysore territory.

I would, however, recommend for your perusal a selection from the records of the Government of India, revenue and agricultural department, by Dr. Watt, reporter on economic products, which presumably contains all the information available on the subject. The pamphlet (vol. 1, part 1, No. 3, of 1888-'89) may be obtained from the Government of India.

I have, etc.,

E. C. OZANNE,
Director of Land Records and Agriculture, Bombay.

J. L. SYMONS, Esq.,
Deputy Chairman, Chamber of Commerce, Bombay.

THE WOOL TRADE OF INDIA.

[Inclosure 2 in Acting Consul Ballantine's report.]

SELECTIONS FROM THE RECORDS OF THE GOVERNMENT OF INDIA, REVENUE AND AGRICULTURAL DEPARTMENT, BY THE REPORTER ON ECONOMIC PRODUCTS.

Prefatory note.

The information contained in these pages has been collected with the object of supplementing the particulars regarding wool furnished in the monograph on woolen manufactures of the Punjab in 1884–'85 by Mr. D. C. Johnstone, assistant commissioner, which was published by the government of the Punjab.

It is very difficult, with the imperfect and incomplete statistics we have of the agricultural live stock of this country, to estimate even approximately what is the total wool production of India. Mr. Orrah, deputy superintendent of the Boglipoor jail, in his letter dated the 15th of June, 1887, addressed to the director of land records and agriculture, Bengal, states that it is calculated that 30,000,000 sheep yield on an average 111,000,000 pounds of wool, or about 4 pounds of wool to the fleece. These figures refer, it is presumed, to the whole of India, as they can hardly be intended for Bengal alone. Mr. Orrah's estimated production appears to have been pitched too high. He puts the average yield per sheep at 4 pounds; this is the average for England, where it varies from 10 and even 12 pounds for the merino sheep to 1½ pounds for an animal from Hereford. In India sheep are, generally speaking, sheared twice a year, viz, once in spring (March and April) and again in autumn (October and November), and at each shearing not more than 1 pound, on an average, is obtained from each sheep, so that the annual yield per sheep is about 2 pounds. That this quantity is not more is natural in a country where the climate is warm and where the animals receive less care and attention than in the United Kingdom. Assuming the average yield per sheep to be 2 pounds, the total production in India would be 60,000,000 pounds, *i. e.*, 30,000,000* sheep (which number may be accepted as approximately correct) by 2 pounds; but to this something must be added, as in speaking of wool in this country the term is used in its widest sense so as to include the fleece of sheep, goats, and even camels. Adding 20 per cent., which perhaps is a reasonable margin to allow, we get 60,000,000 + 12,000,000 = 72,000,000 pounds as the total production of all kinds of wool, and, allowing for net exports from India, the remainder would give a consumption of one-fifth of a pound per head of population in India, the population being reckoned at 250,000,000 people. In England the consumption per head is estimated at 2½ pounds; but it can be nothing like this figure out here, where the consumption to any appreciable extent may be said to be practically limited to the region which would be above a line drawn from the north of Bombay to the west of Patna. Outside that region cotton takes the place of wool in the shape of padded coats or quilts. The manufactures of wool by natives consist mostly of shawls, coarse cloths, blankets, carpets, rugs, felts, saddlecloths, packs for bullocks, and ropes. The working up of the finer materials under European supervision into blankets, serges, broadcloth, etc., is confined to the mills in Bombay, Dhariwal (Punjab), Cawnpoor (Northwest Provinces and Oudh), and Bangalore (Mysore).

India received, on an average, during the last 3 years 10,500,000 pounds, valued at 15¼ lacs rupees, from across the frontier by land. The chief sources of supply are Afghanistan (Cabool and Candahar), Beloochistan (Khelat and Lus Bela), and Thibet, the percentage contributed by each to the total imports being 61, 25, and 4, respectively. The importing provinces are Sinde, the Punjab, Northwest Provinces and Oudh, and Bengal, the proportion taken by each being 82.6, 13.2, 2.2, and 2 per cent., respectively. The imports into Sinde are mostly for shipment, while those into the other provinces are chiefly for home consumption. Candahar and Beloochistan supply Sinde; Cabool, the Punjab; and Thibet, the Northwest

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* In the return of agricultural stock for 1886–'87 the number of sheep and goats is entered as 25,500,000, but this is exclusive of the Central Provinces and Bengal, for which figures are not available at present.

Provinces and Oudh and Bengal in about equal proportions. About 6 or 7 months ago inquiries were made in Parliament regarding the development of the wool trade between Bengal and Thibet by increasing the supply and improving the quality of Thibetan wool, which realizes four times the price of any other wool. It will be seen, from what has been stated above and from the correspondence with the director of land records and agriculture, Bengal, that the trade between Bengal and Thibet, although capable of considerable development, is at present insignificant, hardly amounting to 200,000 pounds, and that it will remain so until the restrictions imposed on trade at the frontier by Thibetan officials are removed and a regular demand there is insured. The efforts hitherto made to develop this trade have met with little or no success. The imports during the current year have collapsed, owing to political complications on the frontier.

The arrivals of foreign wools in India have been increasing considerably during the last 4 or 5 years, having risen from 7,200,000 pounds in 1884–'85 to 12,200,000 pounds in 1887–'88, the latter being the highest quantity on record during the last 10 years; and they continue to augment, as will be seen from the following statement of imports for the 5 months ending August (later figures have not yet been published) of the last 3 years:

	Pounds.
1886–'87	784,000
1887–'88	2,240,000
1888–'89	4,917,000

The expansion of this trade is due partly to the opening of the Sinde-Pishin Railway, by which 7,333,000 pounds of wool were received in 1887–'88 as compared with 1,100,000 pounds in 1880–'81, or 6 years ago, when the line was first constructed, and to a greater extent to the steadily increasing direct shipments from Kurrachee to England, owing to this port improving considerably its facilities for cleaning, pressing, and preparing wool for the European market, and thus decreasing its former large consignments to Bombay for the purpose and cheapening the cost of transit.

The exports by land to frontier states are insignificant.

The imports by sea have averaged during the last 3 years 3,200,000 pounds, valued at 8.3 lacs rupees. These come from places on or near the Mekran coast and the Persian Gulf which are largely inhabited by pastoral tribes, and these receipts—like those by land—have also been increasing during the last 4 years, though not so much, the arrivals in 1887–'88 being 3,470,000, against 2,590,000 pounds in 1884–'85. All this wool is, practically speaking, taken by Bombay and Kurrachee, the former receiving at present a little more than the latter.

The average reëxports of foreign wool for the last 3 years were nearly 10,000,000 pounds, valued at 43.3 lacs rupees, these being taken almost exclusively by England. Of these reëxports, about 70 per cent. proceeds from Kurrachee and 30 per cent. from Bombay.

It will thus be seen that out of the 13,750,000 pounds imported by land and sea into India 10,000,000 pounds are reëxported, leaving, it would appear at first sight, 3,750,000 pounds for consumption in India; but the quantity is really less, as wool is exported in a state different from that in which it is received in India, having to be cleaned, assorted, and pressed at Kurrachee and Bombay before shipment; but the process is apparently far from thorough, judging from the recent reports from England, in which it is stated that the wool received is often loaded so heavily with sand (as much as 70 per cent. at times) that the buyers there are beginning to be very cautious about transacting business in it. Some deduction must also be made, owing to the fact that some of the wool is shipped as Indian wool, among the exports of which it thus figures.

Most of the foreign wool which remains in the country is consumed in the Punjab, the remainder finding its way to the woolen mills at Bombay, Cawnpoor, and Bangalore. A small quantity of Australian wool is imported by the Egerton mills in the Punjab via Calcutta, as it is stated that the native wool does not suit some kinds of English machinery.

The largest quantity of wool consumed in the country, both foreign and native, is apparently in the Punjab, regarding the manufactures of which Mr. Baden-Powell writes as follows:

"Woolen fabrics are not much made in the plains, except coarse blankets. The best come from Rohtuk, but the produce of Sirsa and Leia is by no means despicable. *Pashmina* fabrics, embroidered with silk, and plain *pashmina* cloths are produced extensively at Amritsir and Ludhiana and a few at Lahore. Shawl-weaving, an art introduced by emigrated colonies of Cashmerians, is practiced at the same cities, as also at Nurpur and Admanagar, but with greatest success at Amritsir. None of these articles, however, equal, either in the fineness of texture or beauty of colors and design, the genuine fabrics of Cashmere. The shawl-weaving of Gujerat and Goordaspoor is quite inferior. In Lahore shawls are made from 'Kabuli' *pashm*, a wool which is inferior to the Thibetan shawl wool. These shawls are plain and not patterned like others. They are called 'Lahori Chaddars;' the wool is the produce of the 'Dumba sheep.' (Pages 7 and 8, vol. 1, Punjab Products, 1868.)"

It is stated that the imports of the true *pashm*, or Thibetan shawl wool, into the Punjab are being displaced by those of the inferior *pashm*, the latter, owing to its cheapness, being the most popular in the markets of the present day.

The exports of Indian wool, as returned during the last 3 years, were, on an average, 23,400,000 pounds (valued at 91.4 lacs rupees), towards which Bombay contributed 72 per cent. and Kurrachee 27 per cent. Bombay draws somewhat largely from Sinde, its imports in the 3 years 1884–'85, 1885–'86, and 1886–'87 being, respectively, 8,210,000, 7,580,000, and 3,720,000 pounds; these figures show that Kurrachee is now, as stated before, exporting wool more largely direct to England instead of sending it away to Bombay to be prepared for shipment. The following figures, showing the exports by sea from Bombay and Kurrachee during the 6 years 1882–'83 to 1887–'88, indicate the same tendency on the part of Kurrachee:

Year.	Bombay.	Kurrachee.
	Pounds.	*Pounds.*
1882–'83	19,600,000	1,900,000
1883–'84	16,500,000	3,400,000
1884–'85	15,300,000	3,600,000
1885–'86	17,300,000	5,800,000
1886–'87	17,100,000	5,900,000
1887–'88	16,200,000	7,300,000

The total shipments of Indian wool have increased but slightly in quantity during the past 3 years, having risen from 23,100,000 pounds in 1885–'86 to 23,900,000 pounds in 1887–'88, though in value they show an increase of 10 lacs rupees, better prices being obtainable. On the other hand, the reëxports of foreign wool advanced in quantity from 8,100,000 pounds to 11,200,000 pounds and in value by 19 lacs rupees during the same period. Evidently the growing demand for wool from India is being met by increasing supplies, not of the indigenous article, but of foreign wools from Persia and the frontier states, the chief entrepôt for this trade being, as shown before, Kurrachee. It seems doubtful whether the export of Indian wool will ever increase materially, owing to the supply being limited. Much of the wool that is produced is required for local consumption. Besides, the production is believed to be contracting in consequence of diminishing grazing areas caused by the extension of cultivation. The grazing in forests is also becoming somewhat restricted.

England is also the largest customer in the case of the exports of Indian wool, which is there worked up into carpets, rugs, and blankets. At present India plays a somewhat unimportant part, as compared with Australia, in supplying England with wool, as out of an average import of 555,000,000 pounds during the last 3 years Australia contributed 68.5 per cent. and India only 5.6 per cent.

The following table shows the imports of wool (both foreign and Indian, no distinction between the two being made at present) into Bombay and Kurrachee by rail during the year

1887–'88 and the sources of these imports. The arrivals by rail of wool at the other seaports are insignificant.

Whence exported.	Imported into—		Total.
	Bombay.	Kurrachee.	
	Pounds.	*Pounds.*	*Pounds.*
Bombay	2,320,000		2,320,000
Sinde		3,840,000	3,840,000
Punjab	2,240,000	8,240,000	10,480,000
Rajputana and central India	5,360,000		5,360,000
Total	9,920,000	12,080,000	22,000,000

In Bombay wool is largely produced in the Deccan, and sheep and goats are said to abound in certain parts of Sinde. In the Punjab a small part of the exports is drawn from the great sheep-breeding district of Hisar, but by far the greater portion is reported to comprise the produce of the adjoining tracts in Rajputana and of the Himalayas and the Transhimalayas. Looking to the fact that the Punjab receives from frontier states not more than 1,333,000 pounds yearly, it would appear that about 60 per cent. of the imports by rail into Bombay and Kurrachee consists of the produce of Rajputana alone, and there seems no reason to doubt this, as, judging from the reports printed in the appended collection, Rajputana is evidently a large wool-producing country. In England Rajputana wool is chiefly utilized in making carpets.

The trade in wool in India is important and can be largely developed if woolen manufactures are taken up extensively out here and greater facilities are afforded for importing foreign wool from across the frontier. In Bombay the increasing demand for woolen piece-goods is said to be engaging the attention of manufacturers there, so much so that one woolen mill is in course of construction and three or four more are contemplated. At present some of the cotton mills in the presidency are engaged to some trifling extent in the manufacture of woolen goods in addition to their ordinary business. According to the statistical tables for British India (twelfth issue) published last year by the department of finance and commerce, "there are four woolen mills, viz, two at Cawnpoor, one in the Punjab at Dhariwal, in the Goordaspoor district, and one at Bangalore. One of the Cawnpoor mills is a private concern; the other three are joint stock companies, with an aggregate nominal capital of 18 lacs rupees. The Dhariwal mill does not state its outturn; the other three report an outturn of the aggregate value of 5¼ lacs rupees in 1886, against 7¼ lacs rupees in the preceding year and 3⅓ lacs rupees in 1884. The number of looms and spindles employed in 1886 by the three mills was 242 and 5,420."

F. M. W. SCHOFIELD.

Revenue and Agriculture Department, *December 27, 1888.*

FURTHER NOTES AND CORRESPONDENCE ON WOOL PRODUCTION IN INDIA.

Demiofficial from Lieut. Col. D. G. Pitcher, officiating director of land records and agriculture, Northwest Provinces and Oudh, to the Government of India, dated Camp Chardah, Bahraich, the 17th of March, 1887.

Your demiofficial, dated the 4th of February, 1887, in regard to wool production in Oudh is at hand. I have been making inquiries while on tour through Oudh, and, from all I can learn, production, at no time very extensive, has greatly decreased with the extension of cultivation and consequent diminished grazing area.

The whole of that produced is locally woven into coarse blankets. For 1885–'86 Oudh exported by rail 36 maunds to Bengal and 71 maunds to Cawnpoor. The two woolen mills at Cawnpoor state that they get no wool from Oudh. I tried 3 or 4 years ago to induce the Cawnpoor woolen mills to procure wool from the pargana in which I am now encamped, once famous for the quality of the blankets woven; but nothing came of it, and I now find that the *gareriyas*, or flock masters, have nearly all cleared out since grazing in the forests has become so restricted and since cultivation has extended. They have gone over to Nepaul.

As with the increase of Indian woolen mills there must be a better price for wool than formerly, it will be interesting to notice whether the recent opening of the Bengal Northwestern Railway to Nepalgunge, near here, attracts any wool from Nepaul. A branch line from Bahraich to Byramghat would very probably stimulate exports and imports to Nepaul far more than the present alignment.

Extract from a demiofficial letter from Lieut. Col. D. G. Pitcher, dated Serinagur, the 26th of October, 1887.

I have been making inquiries up here about the wool trade. At present but a small quantity is imported from Thibet; but, if any firm would take the matter up systematically and make advances, any quantity, they say, can be procured at from 20 to 25 rupees at Josimath, from whence to Najibabad it would cost in carriage another 4 to 5 rupees per maund.

Demiofficial from the assistant director of land records and agriculture, Northwest Provinces and Oudh, to the Government of India; No. 4389, dated Cawnpoor, the 10th of November, 1887.

On receipt of your demiofficial, dated the 20th of May, 1887, I consulted the principal correspondents of the department in all the districts of the provinces about the production and disposal of wool in their districts. From their replies, I see that the only part in these provinces which produces any wool worth consideration is the tract bordering the River Jumna, which enjoys large areas of grazing land for rearing sheep. Much of the wool that is produced there is used up locally in the manufacture of *kamals*, *lois*, *numdahs*, etc.

What is left is brought to the mills at Cawnpoor, which work about 15,000 maunds annually, fully one-fourth of which is supplied from this tract. The chief source of the supply of wool is the Punjab, which sends about two-thirds of the total quantity consumed at the mills; a quantity is also received from Rajputana and Nepaul. The several varieties command the following prices per maund at Cawnpoor:

	Rupees.
Desi (produced in the provinces)	10 to 12
Amritsir (Punjab)	14 to 15
Narnal (Rajputana)	15 to 17
Nepaul	20 to 22

Note by Surgeon Maj. T. H. Hendley, honorary secretary of the Jeypoor museum, on the production of wool and woolen goods in the Jeypoor state.

In Jeypoor sheep are principally reared by Gujars and Jats. In ancient times northern Jeypoor, or, at all events, that part of it which was included in Virata (Bairat), was famous as a sheep-producing country, and even now it is stated in the Rajputana Gazetteer that the principal export from Shekawati, or North Jeypore, is wool. The best wool, however, is said to come from the western border, which is not, indeed, as good as that from Joodpoor and Bikaneer; good wool is also obtained at or near Malpoora, southwest of Jeypoor city, the seat of the *numdah*, or felt, industry.

Sheep are kept in most villages, and the wool is bought up by dealers and the *namadgars*, or felters, who may be either Mussulmans or Hindoos. *Khatiks*, or butchers, also sell the wool from dead or slaughtered animals, which, being inferior in quality (*khos-ki-un*), is only used for making coarse felts. There are about 40 families of *namadgars*, Mussulmans, living in the Namadgar-ka-Mohalla, Jeypoor city. About 15 families of *khatiks*, who live near the old Kotwali, also deal and work in wool. The census return does not give particulars under this head for either the state or capital.

Sheep, and even lambs, are shorn twice a year, in the months of Chaitra (March and April) and Kartik (October and November). The wool obtained in the spring is white, that in the autumn yellowish in color, owing to its having been worn in the rainy season. The *namadgars* wash the coarse wool and carefully clean it in a cotton-cleaning machine. They tread the wool repeatedly in soap and water in large pans and squeeze it into balls, which, after drying in the sun, are cleaned by the *pindara*, or cotton-cleaner, with his bow or "tant," or with a machine.

The superintendent of the Jeypoor jail, who until recently bought wool in the Jeypoor bazaar for carpet-making, has now purchased it from Sambhur through an agent who obtains it from the neighboring villages; the best quality, he adds, comes from beyond the Joodpoor border, but it contains more *barut*, or seeds of grass, thus making it difficult to work. Three qualities have been obtained; the last lot cost 14 rupees 12 annas per maund, against 18 or 19 rupees for wool of similar quality bought at Jeypoor. This is the cheapest wool he ever bought in Jeypoor. It contains less sand and dirt than usual. Some of the selected wool would be worth from 25 to 30 rupees per maund in Jeypoor. It comes in the form of a twisted rope tied in a knot, each piece weighing a little over 8 chittacks (Jeypoor weight). The fleece from his own sheep, the wool being coarser, weighed about 8½ chittacks.

From other inquiries, I find that in Jeypoor the fleece of a full-grown sheep weighs from three-fourths of a seer to 1 seer, or 2 pounds 2 ounces. In England the average is 4 pounds to the fleece, varying from 10 and even 12 pounds for the merino sheep to 1½ pounds for an animal from Hereford, where wool is fine, as the sheep are kept very clean. In a warm climate it is natural for the fleece to weigh less. Sheep are not dipped before shearing in Jeypoor.

I am informed that uncleaned wool may be purchased at rates varying from 10 to 12 or 13 rupees per maund. The wool of dead sheep can be bought for 8 rupees per maund. It is sent in large quantities to Bombay, Nagore in Joodpoor, and other places.

Chaura-ka-Sarur, about 25 miles from Jeypoor towards Shekhawati, is the best sheep-breeding ground in the state.

The principal use of wool in Jeypoor is to make felt, the *numdahs* or *namads* of Persia, in which country carpets are generally placed in the center of the room, set, as it were, in a framework of soft, thick *namad*, or felt. I think there is little doubt that this art was introduced into Rajputana from Persia through Delhi. It is an industry of some importance. At Malpoora, the principal seat of it, large numbers of saddle *numdahs* are made for Bengal cavalry regiments; also *gugis*, or hooded cloaks, for native horsemen and persons who are exposed to wet weather; *asans*, or round prayer carpets, used by Hindoo devotees; the *Jai-nimaz*, or Mussulman prayer carpet, which is of oblong shape, marked out with a niche in colored felt; gun covers; *chakmas*, or square rugs; and *kamals*, or coarse blankets. Some of these felts are remarkably fine and durable. The better kinds are beautifully white, the common ones yellow or dark gray.

The *numdahs* are thick and fairly waterproof; many of them are tastefully ornamented with small pieces of colored felt arranged in artistic designs, and most of the prayer carpets are made in different layers, of which the edges are cut into curves and toothlike projections. Felt is also made at Tonk and in Jeypoor. Blankets are manufactured at Hindon, Phagi, Madhorajpura, Choundlai, Chatson, Sambhur, Naraina, Bhandarej, Jobner, Chomu, and Samodh.

Fine woolen cloths (*lois*) are made in Nagore and Bikaneer, not, I think, in Jeypoor, though I am not quite sure whether coarse examples can not be had from Losal, on the west border.

I can not discover that any mixed cotton and wool cloths are made here. *Chakmas*, made in the autumn from yellow wool, are sold at 17 rupees per maund; the best white ones, made at Jeypoor, cost 20 rupees per maund. Tonk *chakmas* of good quality are worth 24 rupees per maund. Blankets cost from 8 annas to 1 rupee each.

Translation of a kaifiat from the council of Bikaneer by A. P. Thornton, esq., officiating political agent, Bikaneer, dated the 31st of March, 1887.

We have received your kaifiat, dated the 16th of March, 1887, requesting information regarding production of wool.

In reply, we beg to state that in Sumbat 1942, 15,811 maunds, and in Sumbat 1943, 19,073 maunds of wool were exported from Bikaneer territory. This gives an average of 18,341½ maunds of wool exported per year. The amount of produce of wool can not be approximately estimated, but, in Sumbat 1942 and 1943, 1,624 and 1,429 maunds of woolen cloth were exported and about 2,000 maunds of woolen cloth used in this state; therefore, the average produce per year may be taken at 22,000 maunds, including the wool and woolen cloth exported to other territories. The average price is 20 rupees per maund and 2 rupees customs duty; it is exported to Bombay via Bangla, in the Punjab. The state of trade is good, because the quantity which remains over the quantity consumed in this state is all sold.

Demiofficial from Maj. P. W. Powlett to Mr. Colvin, dated Joodpoor, the 6th of April, 1887.

As desired in your demiofficial of the 9th of March, I give the following information regarding the wool trade in western Rajputana. It is not possible to state with any accuracy the gross produce of wool, but for Joodpoor it may be roughly calculated at 50,000 to 60,000 maunds. During the last 4 years wool has been exported from Joodpoor to Bombay chiefly by railway, as follows:

	Maunds.
1883–'84	39,180
1884–'85	32,100
1885–'86	43,400
1886–'87 (10 months)	43,150

The increase of export in 1885–'86 and 1886–'87 is attributed to the reduction in October, 1884, of the customs duty on wool from 1 rupee 4 annas to half that amount, and the extension of the Joodpoor Railway line from Luni to Pachbhadra, which is to be opened in a few days, will, it is hoped, further stimulate the wool trade of Joodpoor.

The annual export from Jeysalmere and Serohee* may roughly be taken at 5,000 and 2,500 maunds, respectively. Serohee wool is said to be much inferior in quality to that of Joodpoor or Jeysalmere, and consequently, while a maund of Serohee wool seldom fetches more than 7 or 8 rupees, the price of same quantity of Joodpoor or Jeysalmere wool varies from 12 to 25 rupees. The best wool is obtained at the second shearing after the cold weather.

Kishenghur state.—The estimated produce of wool was 1,000 maunds. The quantity of wool exported was 700 maunds. The fabrics made in this state are *ghooghi*, *chakma*, *kamal*, etc. Wool is sold at 18 rupees per maund; *kamal*, from 1 to 3 rupees per piece; *ghooghi*, from 8 annas to 2 rupees; *ausan*, from 2 annas to 1 rupee, and *chakma*, from 8 annas to 1 rupee 4 annas, per piece. There is a little increase in the trade compared with last year.

Demiofficial from F. Henvey, esq., resident, Jeypoor, to the agent governor-general, Rajputana, dated Jeypoor, the 18th of April, 1887.

With reference to Mr. Colvin's demiofficial letter of the 9th of March, 1887, I inclose a statement showing the figures of the Jeypoor wool trade. I asked Babu Kanti Chunder whether he could get me any interesting particulars about woolen fabrics, etc., and he has sent me a note, copy of which also is inclosed.

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* To Bombay via Madar and Pindwara.

Chakma.—The *chakma* is a woolen sheet of oblong form and is made of different sizes. It is used for sheltering goods from rain and as a protection from cold, and also to spread on the ground. Ordinary *chakmas* are 2 yards by 1 yard, and are sold at about 1 rupee 8 annas each. *Chakmas* (prepared to order) are used for covering carts, ruths, etc., and can be made of any size as the purchaser may require, varying in prices according to the quantity and quality of wool and evenness of the fabric.

Ghooghi.—The *ghooghi* is a warm covering worn as a protection against rain and cold wind. It gradually spreads out from the top, which consists of a sort of a hood. *Ghooghis* are of two kinds, one for walking and the other for *sowars*, or horsemen. The length of the one used by people on foot is just sufficient to cover the human body; that of the other, used by *sowar*, serves to cover also the hip of the horse, and its length is always in proportion to its width. *Ghooghis* (made to order) can be prepared up to the value of 25 rupees.

Ordinary *ghooghis* for walking purposes are sold at 1 rupee 8 annas or 2 rupees each, those for *sowars* from 3 to 5 rupees each; but the price generally varies according to the whiteness and softness of the wool, thickness and evenness of the fabric.

Fabrics made of yellow, uncleaned, and coarse wool, uneven in their make, and so thin that they are not water-tight, when turned towards the sun, let the light through and are not good, but those made of white and soft wool, even and thick, are costly.

Dalli.—The length and breadth of the *dalli* are exactly according to the size of saddle, or *kathi*, under which it is placed to protect the back of the horse from injury, and its price varies according to its thickness, evenness, and the quality of wool of which it is made.

Ausans.—The *ausans* are of two kinds, square and circular. Square *ausans* are 2 feet square, varying in thickness like that of *chakma* and *ghooghi*. *Ausans* (prepared to order) are 1 to 1½ inches thick; circular *ausans* are of different diameters. Ordinary circular *ausans* prepared for sale are generally 2 feet in diameter, and are worth about 8 annas each. Circular *ausans* (prepared to order) are 1 to 1¼ yards in diameter, and are more costly. Hindoos sit on *ausans* when they worship.

These woolen fabrics are often ornamented with borders and flowers of layers of wool worked on the fabrics. Simple borders and flowers are made of white wool, of which the fabrics are made, and sometimes pieces of broadcloth of different colors are cut into flowers and pasted on the fabrics. The *ghooghis* and *chakmas* of Malpoora owe their credit to the water of a certain well, which gives a peculiar luster to the fabrics.

The fabrics described above are made of white wool. Black wool is chiefly used for making blankets and grain sacks.

First of all, wool is cleaned of all foreign materials and then combed; when it is ready for use, a piece of cloth of the measurement of the fabric to be made is stretched out, and the quantity of wool of which it is to be made is spread upon it evenly by a wooden instrument. Wool for preparing *chakmas*, *ghooghis*, etc., is spread on low ground, so that the soap water which is required in the process may not uselessly flow away. After the wool has been spread on the measured cloth, water is sprinkled on the wool, and then the wool is mixed with soap and water and pressed down with the hands and elbows. This process is technically called "rudda," which makes the fabric lasting, even, and exact to the measure. These fabrics are not made by any machine, but prepared by a peculiar process as follows: The cleaned wool is soaked in an infusion of soap, gum, alum, and water. It is then spread upon the floor over a piece of white cloth in flakes, saturated with the said fluid, forming any shape wanted, and beaten in with wooden handle until well set. The piece is then soaked again in the same solution and exposed to the sun, after which it is washed smoothly. These fabrics are remarkably tough and impervious to water. About a quarter seer of soap is required in preparing a *chakma* weighing 2 seers.

After the *chakma* and *ghooghi* have been pressed, the water is not wrung out, but they are spread over *pucca* walls or on beams of wood till dry. After the woolen fabrics have been prepared, they are smoked with sulphur to make the color bright.

High, dry, and sandy places are best suited for breeding of sheep, but clayey and damp soil is not good for them.

In the villages of Malpoora, Phagi, Chaksoo, and Dousa wool is produced plentifully, and in the first-named village woolen fabrics are made. The sheep are large and good-looking; but wool of superior quality is produced in Shekhawati, and the mutton there is better and more nourishing, because the district is sandy, while Malpoora, Dousa, and others are clayey and damp. There are places in Shekhawati, such as Bisas, Ramgurh, and Futtehpoor, conterminous with Bikaneer territory, which are remarkable for best sheep yielding excellent wool.

Young sheep yield soft and white wool, and as they grow older their wool becomes coarse and yellowish. Superior fabrics are made of soft and white wool, and are therefore costly. Inferior fabrics are made of coarse wool obtained from older sheep. Sheep are generally shorn twice a year. In Shekhawati sheep are shorn once at the end of Sawan (July) and again at the end of Phagan (March), because after 3 months wool is generally full of the thorns and prickles which grow there. In other districts of Jeypoor territory wool is shorn at the end of Chait (March) and again at the beginning of Kartik (October). The average quantity of wool obtained from a sheep a year weighs 12 chittacks.

Chakmas, *ghooghis*, *ausans*, etc., are not manufactured in Shekhawati, but the villagers, to meet their own wants, get blankets prepared by Chamars for their use and *dhablas* for their females.

Wool is exported by merchants from Shekhawati to Delhi. The average quantity of wool produced in Shekhawati annually is 1,728 maunds, valued at 32,560 rupees. The average price of wool sold in Shekhawati district is 2 seers per rupee, while in other districts it is sold at 3 seers per rupee, and the reason for this difference is that Shekhawati yields soft wool and the other districts coarse wool.

Note on wool in Bengal by M. Finucane, esq., C. S., director of land records and agriculture, Bengal.

The Government of India having asked me, by demiofficial communication, for some information regarding the trade in wool in Bengal and the possibility of improving the supply or quality of that article, I have made some inquiry on the subject. I now give the small amount of information on the subject which I have been able to gather.

As regards the supply of wool from Thibet and the northern frontier, the following remarks occur in the report of the external trade of Bengal with Nepaul, Sikkim, and Bootan, published by the government of Bengal, 1885:

"The quantity of wool available for export from Thibet is believed to be enormous. Between Kamba and Shigatse, within a march and a half of the Sikkim frontier at the head of the Lachen, sheep are killed, not for the sake of their hides or fleeces, which are practically valueless for want of a market, but in order that their carcasses may be dried into jerked meat and sold for 8 annas each. At Kamba itself carpets and rugs are manufactured of the finest quality and of patterns evincing excellent taste and skill; but there is no outlet for these fabrics. Further north, on the Great Chang Thang (or northern plateau), which begins just beyond the Sanpo, within 5 marches of the Kongra Lama, are prodigious flocks and herds which roam at will over the endless expanse. In noticing the improvements in the supplies of wool imported into Bengal from Thibet during 1883-'84, it was remarked in the report for that year: 'It is believed that this trade has dwindled during the current year (1884-'85), partly owing to the difficulties placed in the way by Thibetan officials.' The statistics recorded show that the belief was well founded, for the quantity imported during 1884-'85 was only one-tenth that imported during 1883-'84, viz, 91 maunds, against 911 maunds. With the exception of 19 maunds registered at Rungeet in 1883-'84 and 5 maunds in 1882-'83, the entire supply during the 3 years was brought through Pheydong. The value of manufactured woolen goods (chiefly blankets) during 1884-'85 was 4,415 rupees in excess of the figures of 1883-'84, but 564 rupees below those of 1882-'83. By far the largest are supplies brought via Pheydong."

The following statement shows the quantity of wool imported into British territory from Sikkim and Thibet during the past 5 years:

	Maunds.
1882–'83	168
1883–'84	911
1884–'85	91
1885–'86	2,555
1886–'87	1,933

The falling off in imports of wool in 1884–'85, as compared with the 2 previous years, has been attributed to the difficulties placed in the way of this trade by Thibetan officials; but, though this may be one of the true causes of the decline in question, it is to be noted that the trade appears to have been at all times insignificant and irregular. At the same time that there was a decline in the imports of wool it is to be observed that there was a very large increase in the imports of other articles (for example, musk and yak tails), which, however, may be accounted for by the greater facility with which these less bulky articles may be smuggled.

Without, however, questioning the existence or the pernicious effects of restrictions placed by the Thibetan officials on the frontier trade—matters on which I have no knowledge and no special sources of information—I may say that, having made some inquiry on the subject at Darjeeling, I have not seen or heard anything which would lead me to doubt that a considerable trade in Thibetan wool can be developed even under existing conditions by simply creating a steady demand and securing a steady sale for the article in Darjeeling. It will be seen from a letter from Mr. Spencer Robinson, which is annexed, that a merchant trading with Thibet has recently offered to deliver to that gentleman in Darjeeling 10,000 maunds of wool, provided he guarantied the purchase of it at 16 rupees per maund. The Thibetans, he adds, will not place any obstacles in the way of allowing the wool to come through. If the wool, as stated, can be delivered at Darjeeling at 16 rupees per maund, or, say, *3d.* to *3½d.* per pound, and the wool is worth in England *6½d.* to *7d.* per pound, as it is believed to be, there would appear to be little doubt that the existence of a steady demand at Darjeeling or some other place nearer the frontier within British territory would lead to a steady supply so far as the resources of Thibet allow. I am not here arguing against the desirability of removing trade restriction, a question which does not come within my province and on which I am not called upon to offer an opinion, but what I am arguing in favor of is the creation of a steady demand for Thibetan wool in Darjeeling by establishing an agency, public or private, for the continuous purchase of it. The attempts being made by Mr. Spencer Robinson, who has, I am informed, much practical knowledge of the subject, will, from this point of view, be watched with much interest. It will be seen from the annexed report, with which I have been favored by the chamber of commerce and from the secretary of the Agri-Horticultural Society, that Thibetan wool, as per sample received from Mr. Spencer Robinson, is supposed to be worth *6½d.* to *7d.* per pound in England, where the price is rapidly rising. If this estimate turns out to be correct and wool is forthcoming from Thibet in large quantities, as stated to Mr. Spencer Robinson, the importation of wool from Thibet should be a highly remunerative business.

The following statement shows the exports or imports of wool from and to Calcutta, according to the custom-house returns and statistics of river and rail borne trade in Bengal since 1881–'82:

Year.	Exports.	Imports.
	Pounds.	*Pounds.*
1881–'82	13,446	7,484
1882–'83	2,336	41,617
1883–'84	32,684	19,613
1884–'85	78,395	21,612
1885–'86	57,595	86,367

As regards the trade in wool produced in the plains of Bengal, there is very little information available in the records of the Bengal government, and, as the Government of India has called for very early report on the subject, I have not been able to ask local officers for further information regarding it. No attempts have ever been made in Bengal to improve the quantity or quality of wool produced in these provinces. The bare suggestion of the possibility of taking measures with this end in view has been made the subject of gibes and ridicule. It will, however, be seen from the papers annexed that practical men who have given attention to the subject are by no means of opinion that nothing can, or that nothing ought, to be done by Government in this matter. Mr. Abbott, a well-known indigo-planter of Tirhoot, is enthusiastically in favor of endeavoring to improve the breed of Bahar sheep by judicious cross-breeding and is willing himself to undertake the supervision of the experiment on an inexpensive plan, which will be found described in his letter annexed, and Mr. Orrah, deputy superintendent of the Boglipoor jail, is of the same opinion. I think that Mr. Abbott's plan is an eminently practical one and that cross-breeding on the lines suggested by him and Mr. Orrah ought to be tried. The revenue and agricultural department of the Government of India may, perhaps, be in a position to give some assistance and support by supplying merino or other good rams and ewes. I am myself also in communication on the subject with Dr. Greenhill, of Calcutta, who has been good enough to volunteer his assistance in the selection and importation of good rams from Australia.

I annex some interesting papers with which, through the courtesy of Dr. Lethbridge, I have been favored by Mr. Orrah.

This gentleman has given much attention to the subject of Indian wool, and probably knows more about it than any official in Bengal. Some of his suggestions for effecting improvements in the quality of Bengal wool, owing, no doubt, to his want of acquaintance with the actual conditions of Bengal peasant life, are, I think, impracticable; but he agrees with Mr. Abbott in thinking that much may be done by judicious cross-breeding. Mr. Orrah, being in charge of the manufacture of woolen articles in the Boglipoor jail, is in a position to offer an opinion of value on the subject, and he bears testimony to the fact that the attempts made to improve the breed of sheep in the Northwest Provinces have led to a marked improvement in the quality of the wool of that province, which, he says, is decidedly superior to that produced in Bengal. Further, he significantly notes that, since the system of cross-breeding sheep by continuous importation of fresh stock has ceased in the Northwest Provinces, the quality of the wool produced is there also deteriorating.

I regret that I am unable to furnish the Government of India at present with more accurate and detailed information on this subject, and have only two practical suggestions to make with a view to improvement in the supply and quality of wool from Bengal and the northern frontier. These are:

(1) That arrangements may be made by which a steady demand and sale can be guarantied for Thibetan wool in Darjeeling or elsewhere within the British territory; such demand will create the supply and will probably arise without the aid or interference of Government when it is known that wool is forthcoming. If, in addition to this, the government of Thibet can be induced to remove restrictions which must, as a matter of course, injuriously affect trade, all the better; but I am not in a position to offer an opinion on this point. Further, it would perhaps be at first desirable to allow specially favorable rates for carriage of wool from Darjeeling by rail to Calcutta, and orders to have this done have, I understand, been recently issued. It would also be well, if possible, to improve the means of communication by road with the Thibetan frontier.

(2) That, as regards wool produced in the plains of Bengal, the suggestions made by Mr Abbott for cross-breeding in his letter, which is annexed, be accepted as a tentative measure

Letter from Spencer Robinson, esq., to M. Finucane, esq., C. S., dated Teendaria, the 17th of July, 1887.

I forward two samples of Thibet wool as received from that country; one is ewe wool, the other ram's wool. I have been selecting wool for a Calcutta merchant during the last week, who is sending it home to England. This is the first shipment of wool sent home. I received a valuation on this wool recently, which was 6½*d.* to 7*d.* per pound in England.

The wool trade with Thibet can be developed into a large business, and a merchant trading with Thibet offered to deliver me 10,000 maunds of wool in Darjeeling (provided I would guaranty to buy it) at 16 rupees per maund. He states the Thibetans will not place any obstacles in the way of allowing the wool to come through the passes. He is sending me samples of cloth, etc., purchased by the Thibetans and wishes me to forward them to English manufacturers and let him know the price of such cloth when landed in Calcutta.

Letter from H. E. Abbott, esq., to M. Finucane, esq., C. S., dated Jaintpur, the 27th of June, 1887.

Suffice it, then, to say, as a commencement of correspondence, that, as far as sheep-breeding in Bahar is concerned, I live in the very center of it, and, roughly speaking, my tenants own at least a lac of these useful little animals; but, as far as wool or quality of meat goes, they are of the most wretched description, though, like most things indigenous to the country, hardy to a degree. As I told you personally, I am convinced that judicious crossing would prove eminently beneficial (were Australian or British blood imported) to both wool and mutton. I do not think much outside trade is done in the wool line, the shepherds finding a sufficient market at present by weaving it into blankets, which they dispose of locally; but, with the railroad now at their doors, the industry only wants encouragement to develop into a very valuable adjunct to the commercial economy of the district. Be it always remembered that the grazing in Bahar is for India the best *par excellence*. Sheep, during the hot weather, are driven to the northern *chours*, when for a mere nominal sum they fairly well keep themselves, while during the rains practical farming planters are glad enough to let them have the magnificent grazing of the inevitably heavy undergrowth in their indigo lands, charging the value of one sheep in the hundred for the right; therefore, Bahar is eminently a country suited to sheep-farming, and it behooves Government to improve the breed. Give me a dozen rams and double the number of ewes, allow me 20 rupees a month to keep them up, and I will guaranty to make a present of 90 per cent. of every ram produced in the stock to sheep-farmers in the district and 50 per cent. of the ewes. Your charge shall be no more than the above 20 rupees as long as I am in the country, and when I leave I will give back to Government the same amount of stock that they handed me, or at the end of 5 years I will ask no further aid from Government, but will return it in kind the amount of rams and ewes advanced me. I will with pleasure furnish statistics of the entire births, deaths, and distribution of the stock. Of course, you will fully understand that, should the stock die, I have no claim whatever against you as far as the 20 rupees per month goes. My mere wish is to show how Government aid, properly applied, can benefit the district at small expense and be made, in the long run, almost self-supporting. After a bit, I believe, we could make money by letting out the services of the rams; but this must be done gradually. I have already proved that, as far as horses, poultry, and dogs are concerned, one can, with imported blood and judicious local crossing, do very great things in Bahar; and, as I honestly believe, as far as Bengal is concerned, it could be made the nursery for grain, horses, oilseeds, sheep, cattle, *et hoc genus omne* for the whole of southern India.

In such a country as this the encouragement of horse, sheep, and poultry breeding, of the importation of finer seeds from foreign countries—in fact, the entire working up of Bahar as a wholesale producer for India should be the work of the Government at first and of every Englishman who, like myself, is grateful to it for a happy, if an exiled, home.

Many experiments have doubtless been made, but forgive me if I say unhesitatingly they have been, as a rule, made on wrong lines. They are generally made through the means of the temporary collector of the district, without the smallest effort being made to find whether the gentleman in question has a penchant for this kind of thing. The odds are he has not. Witness the attempt to breed mules in Mozufferpoor.

Report by Mr. Orrah, deputy superintendent of central jail, Boglipoor, dated the 15th of June, 1887.

I have the honor to submit the following report upon Bengal wools, together with extracts:

Regarding the production and improvement of wool grown in Bengal, it will be necessary to enter somewhat minutely into the characteristics of wool, namely, (1) softness, (2) elasticity, (3) length of staple, (4) uniformity of staple, (5) fineness, and (6) soundness. So far as my experience goes in the working of Bengal wools, I find them wanting in all the aforenamed characteristics.

As regards want of softness and elasticity, I attribute this partly to the hardness of the water the sheep may have to drink, being of a limy character. The scarcity of yolk in the fiber, which is the natural reservoir from which the wool fiber gains its character for softness, etc., shows the sheep are not sufficiently and suitably fed. As regards length of staple, uniformity, fineness, and soundness, these deficiencies are more the result of want of care and attention to the breeding. Good breeding is undoubtedly the main cause by which sheep of all countries are improved or for want of it are deteriorated.

Whilst Bengal wools show these deteriorations all round and contrast very unsatisfactorily with other provinces in the northwest of India, there is one redeeming feature, which is a very valuable one, possessed by the Bengal sheep, and that is they are very receptive, or, in other words, susceptible of being improved more rapidly than many other classes of sheep. The Thibet sheep, for instance, will require much more time to eradicate the coarse hairs and kemps out of the fleece than would the Bengal sheep.

To improve the quality and quantity of Bengal wool, I will mention a few principal methods of treatment necessary for this purpose, for part of which there is some evidence of its having been successful in India, as well as other countries.

Pasturage.—I have spoken of the water as being hard; this seems to point out that land pasturage over Bengal is of a calcic or lime character,* and would undoubtedly not only account for hardness of water, but the pasturage thereof must contain in its grasses, herbs, and trees and vegetation generally a large proportion of calcium; therefore, the food upon which the sheep live and graze must also contain lime, and we see, as a natural consequence, that the wool they grow is dry, natureless, stunted, and irregular in staple, harsh in feeling, coarse, brittle, inelastic, whilst the yolk of the fiber is scanty and poor.

I would therefore suggest that the water which sheep drink should be tested, and, if found to be hard, should be treated chemically with a small sprinkling of oxalic acid,† viz, 1 ounce of the salt of this acid to 500 gallons of water to deposit the lime of waters drunk by the sheep. The washing water for sheep should also have any lime that exists in it deposited before being used.

Quantity and quality of wool, which is distinguished from the fleshy parts of sheep by the large proportion of sulphur which it contains, is very much affected by the soil upon which the food grows; some soils growing poor grasses keep the sheep grazing thereon lean, and, whilst giving finest of wool, yield only 1½ pounds; but a merino fed upon good pasturage of chemically treated soils often gives a fleece weighing 10 to 11 pounds. It is calculated that 30,000,000 sheep yield, on an average, 111,000,000 pounds of wool, or about 4 pounds of wool to the fleece. This quantity of wool contains 5,000,000 pounds of sulphur, which is, of course, all extracted from the soil.

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* This is doubtful.

† Impracticable, and, if practicable, would be dangerous, oxalic acid being a poison.

If we suppose this sulphur to exist in, and to be extracted from, the soil in the form of gypsum, then the plants which the sheep live upon must take out from the soil to produce the wool alone 30,000,000 pounds, or 13,000 tons, of gypsum. Though the proportion of this gypsum lost by any one sheep farm in a year is comparatively small, yet it is reasonable to believe that by the long growth of wool on land to which nothing is ever added, either by art or from natural sources, those grasses must gradually cease to grow in which sulphur most largely abounds, and which therefore from growth of wool—in other words, the produce of wool—is likely to diminish by lapse of time where sulphur has for centuries been yearly carried off the land; and again, the produce is likely to be increased in amount when such land is dressed with gypsum or other manures in which sulphur naturally exists.* This, I believe, could be obtained in a very cheap form from the gas works of the country, some of their waste products containing sulphur in a large degree, such, for instance, as the sulphate of lime, a waste product of these works. There probably, also, is a natural form of sulphur found in connection with the rock-salt districts, as geologically it exists in some form in the same stratification. Iron pyrites also contain sulphur in large proportions. Though not acquainted with all the natural products of India, I am quite sure products could be obtained sufficiently low in rates for manuring purposes. No bones of animals ought to leave India, for its land sadly needs it, being also a valuable manure for sheep farms, in addition to the various dungs of animals of all descriptions. Next, I would suggest, as of first importance, also, that a definite system of cross-breeding should be sustained with rams obtained from pure-blood stock. There is, I believe, some difference of opinion amongst flock-owners as to what countries the best rams are obtainable from; but experience has always proved this fact, that the merino ram, whether of European, South African, or Australian breed, is decidedly the best for crossing with Indian sheep.

As success has been obtained by crossing the merino rams of each one of these aforenamed countries with Indian sheep, the aim of flock-owners should be to obtain wools for clothing purposes of a finer quality. This could be accomplished, and some six different qualities be obtained which would work in combination or serve the special direct purposes of manufacture in general. With this end in view, I would suggest:

(1) For producing finest fibers of a felty character, a cross of one South African merino ram, pure bred, with 100 Bengal ewes.

(2) For producing uniformity of lengths of staple, medium fineness, soundness, and elasticity, a cross of an English merino ram, pure bred, with 100 Bengal ewes.

(3) For medium qualities and characteristics ranging between Nos. 1 and 2, a cross of one Australian merino ram, pure bred, with 100 Bengal ewes.

(4) For improvement from Indian stock rams for coarser wools and cloths, a cross with northwest part-bred merino rams, the result of crossings with European stock in years gone by. This crossing would give wool closely approaching the Agra wool, or wool used largely by the Cawnpoor and Dhariwal mills, and also exported largely to Europe.

(5) I would advise a trial being made of crossing some Thibet ewes with an English merino ram, pure bred, and the rams obtained from this crossing should then be crossed with Bengal ewes. The effect, I believe, would be that a Bengal wool would be produced having a character distinctly its own, and a flannel and clothing wool also suitable for hosiery would be produced of an excellent character and high value.

(6) Combing wool of very long, fine staple, soundness, and elasticity, of a high value, for European combing machinery, would, I believe, be obtained by crossing Australian fine merino ewes, pure bred, with Thibet rams.

In connection with this matter of breeding are several important factors, such as the ascertaining of defects, pursuing a good system of selection or rejection, and subdivision of sheep into classes. These should be done regularly by a yearly inspection, so as to form correct opinion of the nature and properties of the fleece borne by each, in order that the defective sheep may be removed and never again allowed to mix with those drafted and set apart for the production of fine wool.

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* Gypsum would, no doubt, be good manure for pasture land, but *berriwallahs* are not likely to use it.

White-wooled sheep, free from gray or black, should be kept separate; black-wooled sheep, free from white or gray, should be kept separate; also the rams of same should be similarly kept separate with their flocks and not allowed to mix promiscuously. All party-colored sheep should be extirpated.

Kemp and hairy wool is very objectionable. Bengal wool is very kempy, that is, full of white, hairy, coarse bristles or hairs, which protrude and will not dye or become amenable to any process or operation of improvement. This, however, is the result of deterioration in all its forms and can only be eradicated by the carrying out of all such operations as are being suggested herein. If only a few kemps be seen in wool, it lowers its value immensely for clothing purposes. Good feeding, protection, and breeding will eradicate these objectionable features. Thus it is that changes in the fleeces of sheep are wrought by propagation or crossing of breeds possessing those qualities which it is wished to acquire.

Lord Western years ago recorded the effect of a union he made with one of his lordship's own merino tups and some East Indian ewes, on which a striking proof was exhibited of the influence of the male upon the progeny, the latter having a fleece infinitely superior to that of the dams. The ram was kept highly fed, and consequently their fleeces became long in fiber, heavy in weight, the breed of the ram being the merino, which is considered the best from which foreign stock can be improved. Purity of blood should be unquestionable, and the result will then be a stronger stamina, capable of standing changes of climate better.

It is, however, impossible, in the brief space of a report like this, to enter more fully into the minute details of sheep husbandry. I subjoin, however, a few extracts obtained from my library, which may be of interest in showing what has been done in the past in the other presidencies of India, and which I consider somewhat confirms by facts some of the suggestions herein made.

Before concluding, I might remark, from my present workings of the northwest of India wools, as compared with Bengal wools there is so decided a superiority of the northwest wools that I am obliged to use a large proportion to obtain more satisfaction from those who purchase our blankets and cloths, and I have no doubt in my own mind that this same superiority has been given to it by some such early action in the matter of breeding, etc., having been taken by the government of the northwest of India in the years gone by.

I am also convinced that Bengal could so improve its wools, and, if the system of cross-breeding was kept up continuously, might eventually supersede in character the wools of those provinces. I judge, also, from what I see of the northwest wools at present, there are signs in their wools now that the system of cross-breeding is not being kept up by continuous importations of fresh stock, a very desirable element to sustain and further improve their wools; this I would suggest Bengal should attend to continuously.

Extracts furnished by Mr. Orrah regarding early efforts in India to improve the breeds.

The Cape-bred merino rams have been found to answer for this country (India) better than those imported from England, so much so that Government have determined henceforth to import only from the Cape, as appears from the memorandum from Mr. Secretary Reid, in 1835.

The attention of Government was first directed at the end of 1835 to the improvement of the wool and sheep of western India. From the information furnished to Government it appears that many parts of the Deccan and Guzerat are very well adapted to sheep pasture, and that, if the wool of this country, which, though of a very inferior kind, finds a ready market, were improved by importing superior sheep, so as to improve the fleece of the country breed, the natives would be greatly benefited. Measures were accordingly adopted by Government to import sheep of a superior breed and in 1837 a supply of rams and ewes, about 106 in number, of the Southdown merino breed, were sent out at a very heavy expense by the honorable court under the care of an experienced English shepherd. About 60 rams and ewes of the Saxon and merino breed were obtained from the Cape of Good Hope, where the breed is very fine.

A large supply of sheep (600) was also obtained, through the agency of Colonel Pottenger and Captain Burne, from Afghanistan and Cabul and the pastoral districts in the vicinity of the Indus. A small number sheep was also brought from Bassorah, as it is well known that the breed in that part of the country yields a very fine, lengthy fleece. The sheep obtained from England, the Cape, and Cabool have been distributed about the country, and many of them are intrusted to the care of gentlemen who understand the management of this animal and take an interest in the undertaking. A sheep farm was established at Ahmednuggur and another at the fort of Jooner, where the climate is good and pasturage plentiful, and these farms were intrusted to Mr. J. Webb, of the civil service, who had a good practical acquaintance with the management of sheep. The natives in the interior who breed sheep are supplied from these farms with half-bred lambs and were allowed to send their ewes to the Government. From the experience gained by these practicalists, it was found that the Cape-bred merino sheep were far superior to those bred in England and better adapted to the Indian climate, the English sheep being too large for the slight-made ewes of this country and are, moreover, greatly affected by the change in the climate. The Cape sheep are less affected by the climate and not so subject to disease as those of this country or of England, while their lambs are much stronger than those produced from the English sheep. It was therefore determined not to obtain any more supplies from England.

This enterprise on the part of the Government was noted by Sir George Arthur, who brought to the subject a valuable fund of information which he had acquired during his previous administration in New South Wales, and thus early declared himself a decided patron and supporter of improvements in Indian wool. When visiting the Government sheep farms of Ahmednuggur and Amraut Mahub he inspected the flocks, and in a minute drawn up on the occasion remarked that "an improvement in the breed of sheep, as regarded the views of Government, was not an object that at all had reference to profit, but one on which the authorities took the lead as being the best means of interesting industrious natives in the experiment." Sir George suggested the advantages which would be derived from establishing a more definite system in breeding, in the first place by carefully ascertaining the defect on the indigenous race and, this done, by steadily pursuing a good system of rejection and crossing. He at the same time adopted a fresh mode of pasturing and subdivision of the sheep in such a manner that no flock should exceed 700 head and recommended that, in order to encourage the natives to try the experiment, a given number of the improved sheep should be transferred to the native shepherds under an agreement to provide pasture and attendance, receiving in payment one-third of the produce, and so on.

Again, about a year later, Sir George Arthur, having occasion to visit Allegoom, where the Government flock had been collected by a previous arrangement with the superintendent, again inspected the stock, and in a minute written by himself and dated September 27, 1843, he expressed himself much pleased with the manifest improvements in the condition of the sheep, which were such as showed the care and attention paid to them by the superintendent, and the general appearance of the flock being greatly bettered by the removal of party-colored sheep, recommending, at the same time, that no relaxation in this system should be allowed, and urging that it would be proper in the next report from the farm to have the sale price of the wool compared with the ordinary country sheep distinctly noted. Sir George Arthur observed that, in order to insure success, it would be necessary annually to import a fresh stock of merino rams till the improved stock had thoroughly superseded the country one on the farm

Captain Henderson, who acquired much information on the subject as a sheep-farmer at the Cape in 1836, submitted to the government of Bombay a paper of instructions on the management of merino sheep. In this treatise the captain states that on rearing these animals the diseases in India most to be guarded against are dysentery and mange. As a precaution against the first, he says that dry pasturage is most essential, and, in order to prevent the mange, that great attention should be paid to the cleanliness of the sheep. A Patna ewe crossed with a Southdown ram was tried in Calcutta by a gentleman who had had considerable experience in the growth and cleaning of the staple in the Australian colonies, and he entered among the proceedings of the Agricultural and Horticultural Society of India the following results: The wool is decidedly of a very good quality for the first cross, uniting length of staple and softness with great uniformity of quality throughout the fleece, which is much desirable; the quality, from its coarseness, will not admit of it being used for other than blankets and very coarse cloth; its market value was, in the home market, 16*d.* per pound. He further states that Mr. Rickets, the owner, had acted correctly in having crossed Patna with the Southdown and should strongly recommend him to carry out the improvement by crossing the production with the merino, as he only requires now the texture, he having procured the length of staple with crosses. India can, in my opinion, if sufficient care were displayed in the crosses, produce as good a sample of wool as any of Her Majesty's dominions from the luxuriousness of feed and the temperature of the climate, as texture with length of staple is all that is necessary.

Colonel Hazelwood, in writing to Captain Jacob, of the Bombay artillery, dated Bangalpore, 1837, says: "I have just received six more Saxon rams from the ruby flock of Sydnéy. Mr. Sullivan brought out two merino rams and two ewes, and I have seen the effect of crossing by these and also by Southdown rams imported by Sir William Rumbold on the Neilgherries. Even the red, hairy sheep of India become Southdown in size and wool in the second generation, and the white-wooled sheep of India become merino and Southdown in size and wool after one crossing. I have been shown Mr. Sullivan's merinos, which have been 2 years in India. After twice washing and shearing, the day after the ewes gave 5 or 4½ pounds each, in fineness, length of staple, elasticity, and oiliness equal to any I ever saw in Tasmania, where 2½ pounds is the utmost ever got from a ewe of the merino kind."

Since writing my report upon the wools of Bengal I have received by mail a copy of the weekly paper of the 14th of May, 1887, called the Wool and Textile Fabrics, which contains a report made by Mr. F. H. Bowman, D. S. C., F. R. S., an authority in England on technical matters upon Indian wools. I have therefore had a copy of the same written out, which I send to you with this letter:

"We take the following paper on colonial wools (by Mr. F. H. Bowman, D. S. C., F. R. S., etc., president of the Society of Dyers and Colorists) from the 'Report on the Colonial Sections of the Colonial and Indian Exhibition,' issued under the supervision of the Council of the Society of Arts and edited by the secretary of the society, H. Trueman Wood, esq., M. A.:

"'The whole of the wools exhibited from India, except one or two incidental specimens, were confined to those contained in a case within the economic court. In speaking of them as wools, the term is used in its widest sense so as to include all goat and sheep fibers. The samples were twenty-three in number, and no reference appears to be made to them specially in the official catalogue. Few of these samples were named specifically, the largest portion being only distinguished by a number or letter without label. In character they covered a wide range of quality, from the very coarsest goats' hair down to the finest wool or pure *pashmina*, which is the undergrowth of the Thibetan shawl goat, as well as the native Indian wools, of which there are at least eight varieties. These wools are interesting, as they contain almost every variation in the individual fibers which is to be found in all other races of sheep. Most of the hairs and wools exhibited in this section, however, are of comparatively small interest to European manufacturers, because the export is small and the quality such that they can only be used for the coarsest class of goods, and, when worked by machinery, they require to be mixed with other wools. They are, however, of considerable importance in India as forming the staple of the woolen industry in the mountain districts, where the great bulk of the woolen goods is worn. Many of them are singular mixtures of coarse and fine fibers; so much so, that those who are only accustomed to the regular wools of cultivated sheep can hardly conceive it possible that many of the samples could be obtained from a single animal. The finest specimen in quality and regularity of fiber and in all characteristics which are typical of the best wools can scarcely be surpassed; but by far the largest numbers of samples are defaced by irregularities in the structure and quality of the fiber, which are only to be found in the most neglected sheep in the United Kingdom and the colonies. To enumerate all the defects which are found in many of these wools, when compared with the highest standards attainable in the Australasian colonies, would be to mention all the defects to be found in any wool, and, indeed, many of the samples probably resemble the covering of the primitive sheep from which all the truly domesticated varieties are originally derived. Without further knowledge in regard to the place of origin, a mere classification of these wools would be of little service, and especially since the wools of India scarcely come within the scope of this report and will probably receive attention elsewhere.

"'As already remarked, the wide range over which the growth of the wool extended and the difference in climate and other conditions to which the sheep in the various colonies were subjected rendered the present opportunity most valuable in making a comparative examination of the different wools. This survey brought home to the eye most forcibly the very wide range of conditions under which the sheep can be cultivated and the high state of perfection to which it can attain in almost every part of the world when due attention is paid to the culture and breed. It seems to indicate that special cases of sheep are more adapted to certain regions of the earth's surface than others, and that in many cases the environment of the sheep tends in the course of generations under careful management to produce a special character, which becomes permanent and may be retained as a pure breed. It also shows that certain characteristics of the wool, such as luster in the long-wooled breeds, can only be retained permanently by the reintroduction of fresh blood from time to time, at any rate in all the regions which lie nearest to the equator a certain degree of equality of temperature and atmospheric moisture being necessary for its permanence. Thus it appears to be retained longest in New Zealand and the southern coast of the Australian continent. The nature of the herbage also affects the quality of the wool in a marked degree, and probably one of the chief reasons why the Australian merinos deteriorate when introduced into Cape Colony is because the herbage is not fitted for the highest development of the sheep. One very marked lesson of the exhibition is the fact that all the best wools exhibited show that whatever tends to improve the character of the sheep in any one direction reacts all round in a benefit to all the other characteristics. The same conditions which tend to increase the size of the sheep cause the wool to be better nourished, firmer, and more tenacious, without injury to the best qualities of the fiber, provided care is taken in the proper selection and purity of breed in the sheep. The question of difference in the luster of the wool is an important one and opens a wide field for investigation. It has been already noticed that the Victorian wools stand foremost in this respect amongst the merinos. When the fibers are examined by a microscope, it appears that, while the fibers are equally fine when compared, say, with those from New South Wales or South Australia, the development of the individual scales on the surface is larger, and they present fewer scales in the linear inch. On the other hand, as the fineness in diameter is maintained in the less lustrous fibers and the development of the scales is greater in number, this gives a greater softness and pliability to the individual fibers, with a large degree of serration and therefore a higher felting power. It is for this reason, probably, that the wools of New South Wales are more adapted for fine clothing trade than the more lustrous Victorian or the coarser fiber wools of South Australia. The judicious introduction of the best characters of certain classes of sheep into other breeds, as is clearly shown, may induce a permanent improvement of the new breed only under certain conditions, and it seems now beyond a doubt that it will always be necessary for the farmer to discover the special class for which his own climate and surroundings are the most advantageous if he is to attain the highest perfection in the production of wool. Those who are growers of the wool must remember that every year the demand for quality in the raw material is greater, and those only who aim at securing all the best properties which wool can possess will secure the markets of the future.

"'In several instances kemps were found associated with the wool. These kemps are fibers, usually shorter and thicker than the others, in which all traces of wool structure are absent. They are brittle, solid, and ivorylike. This is the sure indication of want of trueness in breed, and is most objectionable, as these kempy fibers will neither felt nor take any dye. They can not be removed from the fleece by any process, except picking them out, and hence they injure the quality of any goods for which the wool may be used. The defect was specially noticed in some of the cross-breds with the long-wooled sheep, and where it exists the value of the wool is most seriously deteriorated.

"'Nothing can compensate for the want of condition in the wool when sheep are neglected, and it can not be too strongly urged that every endeavor should be made to maintain in the bulk the high standard presented in the samples exhibited. Without this care and due attention to classification the results of good breeding and cultivation may all be lost and rendered commercially unremunerative.

"'An endeavor was made in preparing this report by each specimen exhibited in relation to the geographical position in which it was grown to determine, if possible, whether any general law with regard to characteristic properties could be drawn from this relation, but the differences in the breed of sheep and in the care and attention bestowed on the wool rendered any sound deduction impossible, and it therefore appears probable the selection of breed, good pasturage, and attention have far more influence than mere geographical position within the range of the temperate zone.'"

From S. E. J. Clarke, esq., secretary of Bengal Chamber of Commerce, to M. Finucane, esq., C. S., dated Calcutta, the 28th of July, 1887.

I have only received your letters of the 21st and 27th instant, the former handing me two samples of ram's wool and ewe's wool from Thibet, of which you wish the value in Calcutta. The samples have been examined by the committee of the chamber of commerce, who direct me to send you the inclosed copies of letters written by Messrs. Peel, Jacob & Co., of this city, with reference to similar descriptions of wool sent to them from Darjeeling in the beginning of 1884. Such wool, say 30 to 40 maunds, was then valued in Calcutta at 18 rupees per maund. It was, however, subsequently sold to the Elgin Mills Company, of Cawnpoor, for 25 rupees per maund.

Through the courtesy of Mr. J. L. Mackay, of Messrs. Mackinnon, Mackenzie & Co., I am able to supplement the information given by Messrs. Peel, Jacob & Co. by a London valuation report, dated May 18 of the current year, on the same samples of Thibetan wool sent home by Mr. Mackay's firm. The valuation given is from 6¼*d.* to 7*d.* per pound at the then current market rates. The Economist gives the price January to June, 1884, of unwashed wool at 7*d.* per pound. The value of wool similar to the samples you have now sent would be, probably, at that time 5*d.* to 5½*d.* per pound. The higher quotation given by Messrs. Buxton, Ronald & Co. in May last is owing to the rise in the price of wool which has taken place during the last 3 years.

Thibetan wool is not well known in this market, so that it is difficult to say what the demand for it would be.

The committee of the chamber of commerce desire me to say that they are of the opinion it would be advisable to send the samples * to the Elgin Mills Company, of Cawnpoor, and also to the Egerton Woolen Mills Company (limited), at Dhariwal, Amritsir, from both of which concerns you would be likely to receive valuable and practical reports as to the quality of the wool and its suitability to their requirements. They would probably also be in a position to say what place it would take in the home market.

In conclusion, I am to say that, if you desire it, Mr. Mackay will be happy to send the samples home for valuation in London.† An early reply to this suggestion will oblige.

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* This has been done.—M. F.

† I have requested Mr. Clarke to have this done.—M. F.

Report on wool samples referred to in Mr. Clarke's letter.

We have two samples of wool from you and value the first received at 5*d.* per pound and that last received at 5½*d.* per pound. The wool is unwashed and unassorted; it is well grown and is of a sound and healthy character. Such wool would sell in Europe in any quantity. Of similar wool from Bombay, Kurrachee, and Beyroot we sell 50,000,000 pounds annually. There is always a market for such wool at a price; at present the value of all carpet wools (that is carpet wool) is remarkably low. Please refer to the figures in the inclosed circulars about East India wool, which will govern this wool also. Those figures are for washed wool, assorted into various colors and qualities, and it might be advisable to trace a small lot of the wool you have in view in this manner and ship it to test this market. At the same time we would certainly suggest that 5 or 10 bales should be shipped in the natural state, and then we could report fully, and you would be prepared to act in the event of prices rising. It appears to us that the subject is one of great importance, for it is evident that the wool shown by your samples comes from a country perfectly adapted for the growth of a sound and healthy wool.

In Bombay and Kurrachee it is customary to assort and wash the wool before it is shipped, and this plan commends itself to our buyers. We send you samples of a parcel of Candahar wool, which was worth 5¾*d.* per pound in its original state as clipped from the sheep, and we give you the result in the assorted and marked washed state of this wool. We do not, however, know what the wool weighed before it was washed.

Class.	Weight.	Value.
	Pounds.	*Pence.*
No. 1 (white)	12,000	11
No. 2 (white)	1,700	7½
No. 3 (yellow)	6,000	9
No. 4 (yellow pieces)	2,500	6½
No. 5 (gray)	1,200	5½

From Messrs. Buxton, Ronald & Co. to Messrs. Duncan, Macneill & Co., dated London, the 18th of May, 1887.

With reference to the sample of Thibet wool submitted to us this day for valuation, we beg to say we consider the wool worth from 6½*d.* to 7*d.* per pound at present market values.

From Messrs. Peel, Jacob & Co. to the secretary of the Bengal Chamber of Commerce, dated Calcutta, the 14th of January, 1884.

The sample of wool referred to in your letter of 8th instant is to hand, and we will endeavor to send you a valuation for it in a few days.

Our Liverpool correspondents, to whom we sent a sample of your wool, write us as follows:

"We find the present value is about 5*d.* for unwashed and say 9*d.* per pound if washed. It is recommended to be washed before shipment, and, if in addition the colors be assorted, each sort being, of course, packed separately, higher prices would be obtained. We understand there is usually a good demand for this artiele."

From Messrs. Peel, Jacob & Co. to the secretary of the Bengal Chamber of Commerce, dated Calcutta, the 25th of January, 1884.

We much regret we have been unable to send you any report on the last sample of wool sent us, as we have not received any communication so far from the Elgin mills, Cawnpoor, to whom we sent it. We have now the pleasure to inclose a report on your earlier samples, which we have received from our home correspondents, who have gone to some trouble in the matter, and we have sent you by post the five samples referred to therein. We inclose, for your further information, a Liverpool wool circular, details in which may be of interest to you. We would ask your careful consideration of the report, and would recommend you to make a trial shipment as suggested with the view of commencing a regular business.

From the Agri-Horticultural Society of India to the director of land records and agriculture, Bengal, dated the 30th of July, 1887.

I am now in a position to reply to your demiofficial No. 284 of the 21st instant, regarding two samples of wool from Thibet, ram and ewe. As mentioned in my previous note on this subject, there is very little trade done in wool in Calcutta, and the dealers in Thibetan wool amount to probably less than half a dozen in number. I have obtained the opinion of two of these traders on the samples. They consider they are good raw wools, but are very dirty, and their value would depend on the washing and cleaning they should receive before being put upon the market. In the present state the wool would be unsalable here. The final market for wool of good quality is Amritsir, and the price there for staple of the quality of the samples would be from 1 to 5 rupees per seer, according to the cleaning to which it has been subjected; it would there meet in competition Australian and European wools, which are imported via Bombay. Another market would be found at the mills in the Northwest Provinces; but prices are not good there, as best qualities of wool are not sought after.

Of the two samples the ewe's wool is the better; the brown spots in it would, however, probably depreciate its value. From an European point of view, the samples would be much improved were the two qualities of wool of which they are each composed separated. The outer wool of the sheep is wiry and harsh as compared to the soft inner fleece, which is the more valuable. Should you desire it, I can obtain a more precise valuation from Bombay in a few days.

Letter from the agent of the Elgin Mills Company to the director of land records and agriculture, Bengal, dated Cawnpoor, the 16th of August, 1887.

With reference to your No. 327, dated the 3d instant, and the sample packets of ewe and ram's wool from Thibet, I have the pleasure to give the following particulars:

Quality.—A very good combing wool, with about 33 per cent. natural grease.

Value.—Can be purchased in the Cawnpoor market at from 23 to 25 rupees per maund.

We might, perhaps, be able to relieve you of a small quantity, but our consumption is only about 10,000 pounds.

Letter from the manager of Egerton Woolen Mills Company to the director of land records and agriculture, Bengal, No. F. 123 K., dated Dhariwal, Punjab, the 17th of August, 1887.

I have received two samples of wool you have been good enough to send me. I had a standing order with Mr. Prestage all last year to purchase 500 maunds of this wool at Darjeeling, but he entirely failed to procure for us some 50 maunds. This year I made a contract with another gentleman, and he, with the greatest difficulty, has succeeded in getting me 250 maunds. I can not say yet to what extent I should be likely to take this wool, as we get identically the same from Thibet through our part of the Himalayas, but it is certain that no single part of Thibet could possibly produce 10,000 maunds in a year, as that means the fleeces of over 200,000 sheep.

We gave 20 rupees a maund for our consignments delivered at Sealdah.

From the Agri-Horticultural Society of India to the Government of India, dated Calcutta, the 3d of January, 1887.

I have the honor to acknowledge your No. 262—7-23 F. & S., dated the 19th ultimo, which I had the honor of placing before a general meeting of the society, and I am directed in reply to send you copy of a demiofficial letter from Babu Protapa Chundra Ghosha, reporting on the samples of wool which accompanied your letter.

Letter from Babu P. C. Ghosha, dated the 30th of December, 1887.

I have examined the six samples of Thibet wool sent by you, and I have got a Cashmere shawl merchant to examine and value the same. He declares sample No. 5 to be the best of the batch. Of black wool, the sample No. 3, though good in its way, is not so far superior to No. 6 as to justify the difference of 3 rupees in the maund. Just as I stated in my previous letter, a great deal depends upon the kind of carding and cleaning each sample receives before it is brought down to India for sale. As an extensive manufacturer of shawl and woolen goods both at Amritsir and Cashmere, he is of opinion that in purchasing large quantities the quality actually supplied is much inferior to the samples, and the difference of the quality of the sample and that of the goods in bales varies indirectly as the quantity of the sample and directly as that of the goods purchased. The smaller the quantity of sample the better it becomes by handling. There, however, can not be any question as to the quality of Thibet wool generally. They are superior in fineness and length of staple to any foreign wool brought to India. But one must not forget that the value of the wool, provided it be fine in texture, is regulated wholly and entirely by the degree of its cleanliness. Thibet wool is the only superior wool which is used by the shawl-makers, both in and out of India. As I said before, Rampoor and Yarkand are the two principal marts. But the supply is so uncertain and precarious and the prices so varying that it is quite difficult to form any idea on its export value. The wool-dealers of the frontiers are of opinion that India is a better market for such wool than any other country, and I think we ought to indorse the same.

From the notes on the samples sent, it will be found that a very limited supply of the six different samples is available:

Sample.	Maunds.	Sample.	Maunds.
No. 1	100	No. 5	25
No. 2	100	No. 6	200
No. 3	100	Total	2,525
No. 4	2,000		

The total available supply of all sorts was about 2,500 maunds. Of this total, about 2,000 maunds are consumed annually by the people of India in the way of blankets and coarse cloth manufactured in Sikkim, South Bootan, Gurhwal, Nepaul, Rampoor, and other hill places. The remainder, the better and finer quality, are all taken up by the shawl-manufacturers. The prices paid by them for wool of average quality I have already quoted in my previous note on wool. It would, therefore, be much desirable to so far facilitate the import of that article to India as would make the material available to all classes of wool manufacturers of the country for home consumption. Assam, Cachar, and the ten districts are the great places for woolen blankets which come from Thibet, through Sikkim.

As for the value of the samples in Calcutta market, I regret to have to report that there are no native purchasers for the same. I do not know whether the European manufacturers would care to get their wool from Thibet when they can get, perhaps at less cost, almost as good material from America, Australia, and Germany.

From the secretary of the Bengal Chamber of Commerce to the Government of India, No. 218-88, dated Calcutta, the 9th of March, 1888.

The committee of the chamber of commerce direct me to acknowledge your office No. 261—7-23 of the 19th of December, forwarding for valuation six samples of Thibetan wool received by your office from the director of land records and agriculture, Northwest Provinces and Oudh, and calling for any remarks the chamber may have to make on the subject of a wool trade with Thibet.

In reply to the communication under acknowledgment, I am to say that the committee can add nothing to what was said in my letter of the 18th of November last. So long as the Thibetans are allowed to occupy a position within the Sikkim border, from which they can at will block the Jeylap-la-pass, the trade must necessarily depend upon their good will. This matter is, however, before the Government of India.

On the general subject of improving the wool trade of Bengal the committee will be glad to receive any further communications from you showing how the suggestions of Mr. Abbott and Mr. Orrah have been dealt with.

I now come to the valuation of the six samples of wool sent with your letter under reply and returned herewith. For the London prices now given the committee are indebted to the courtesy of Messrs. Mackinnon, Mackenzie & Co.

(1) Price per maund at Josimatti, 20 rupees the seer weighing 80 tolas; about 100 maunds can be purchased. London report—Gray, good quality (if greasy); probable value, 5¼*d.* per pound.

(2) White wool; supply available, 100 maunds, the seer weighing 80 tolas; price at Josimatti, 20 rupees. London report—Cashmere, coarse white, 8¼*d.* per pound.

(3) Black wool; available supply, 100 maunds; local price, 25 rupees per maund. London report—black, good quality (if washed), 7½*d.* per pound.

(4) White wool; available supply, 2,000 maunds; local price, 20 rupees per maund. London report—white, good quality (if washed), 6½*d.* to 7*d.* per pound.

(5) Good white wool; available supply, 25 maunds; local price, 40 rupees per maund. London report—Cashmere, white, fine, 10½*d.* per pound.

(6) Black wool; available supply, 200 maunds; local price, 22 rupees per maund. London report—dark gray (if washed), 6½*d.* to 7*d.* per pound. The report goes on to say: "Our brokers say it is difficult to value on such small samples, but they assume the bulk to be fairly represented and not loaded with sand. This should be guarded against, as we are told the natives put any rubbish up with their wool."

[Appendix.]

Table showing the price of wool in England, per stone of 24 pounds, since 1818.

Year.	Cheviot.		Highland.	
	Laid.	White.	Laid.	White.
	s. d. *s. d.*	*s. d.* *s. d.*	*s. d.* *s. d.*	*s. d.* *s. d.*
1818	40 0 to 42 2		20 0 to 22 6	
1819	21 0 to 22 0		10 0 to 10 3	
1820	20 0 to 22 0		9 0 to 10 0	
1821	18 0 to 20 0		9 0 to 10 0	
1822	12 6 to 14 6		5 0 to 6 3	
1823	9 0 to 10 6		5 0 to 5 9	
1824	13 6 to 15 0		6 0 to 6 3	
1825	10 6 to 22 0		10 0 to 10 6	
1826	11 0 to 14 0		5 0 to 5 6	
1827	11 0 to 14 0		5 6 to 6 9	
1828	8 0 to 11 0		5 6 to 6 0	
1829	8 6 to 11 0		4 3	
1830	9 6 to 11 0		4 6 to 5 0	
1831	17 0 to 20 0		7 6 to 8 6	
1832	14 0 to 16 0		7 0 to 7 6	
1833	18 0 to 20 7		10 0 to 11 0	
1834	21 0 to 24 6		5 6 to 7 0	

Table showing the price of wool in England, per stone of 24 pounds, since 1818—Continued.

Year.	Cheviot.		Highland.	
	Laid.	White.	Laid.	White.
	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
1835	19 0 to 20 6	...	9 6 to 10 8	...
1836	21 0 to 25 0	...	10 0 to 14 0	...
1837	12 0 to 14 0	...	7 0 to 7 8	...
1838	19 0 to 22 6	...	6 0 to 10 0	...
1839	18 0 to 20 0	...	8 0 to 12 0	...
1840	...	...	7 0	...
1841	15 0 to 16 9	...	6 0 to 7 5	...
1842	12 6 to 14 0	...	(*)	...
1843	9 0 to 11 6	...	5 0 to 6 0	...
1844	15 0 to 18 0	...	(*)	...
1845	14 6 to 17 6	...	7 6 to 8 6	...
1846	12 0 to 14 6	...	8 0 to 8 6	...
1847	12 6 to 14 0	...	(*)	...
1848	9 6 to 11 0	...	4 9	...
1849	12 0 to 16 6	...	6 0 to 6 3	...
1850	15 0 to 17 6	...	8 0 to 8 6	...
1851	12 0 to 16 0	...	8 0 to 9 3	...
1852	13 0 to 15 0	...	8 0 to 9 0	...
1853	19 0 to 22 0	...	11 0 to 12 6	...
1854	12 0 to 15 0	...	7 6 to 8 6	...
1855	14 6 to 19 0	...	8 6 to 9 0	...
1856	19 0 to 21 6	...	11 0	...
1857	19 0 to 24 0	...	13 0 to 14 3	...
1858	15 0 to 17 0	...	8 9 to 10 0	...
1859	18 6 to 24 0	...	10 9 to 11 6	...
1860	22 0 to 32 0	37 0 to 38 0	10 0 to 11 3	...
1861	19 6 to 27 0	(†)	(*)	...
1862	18 6 to 26 0	30 0 to 37 0	11 6 to 16 0	...
1863	25 6 to 31 0	38 0 to 42 0	15 3 to 17 6	...
1864	31 0 to 39 0	47 0 to 54 0	17 6 to 20 0	...
1865	23 0 to 30 0	41 0 to 45 0	15 0 to 17 0	...
1866	24 0 to 36 0	30 0 to 38 0	14 0 to 16 0	...
1867	16 0 to 21 6	(*)	(*)	...
1868	19 0 to 26 0	28 6 to 32 0	8 6 to 9 0	...
1869	18 0 to 26 6	(*)	8 6 to 10 0	...
1870	15 0 to 23 6	25 0 to 26 0	9 6	...
1871	20 0 to 26 6	30 0 to 34 6	12 0 to 15 0	...
1872	26 0 to 37 6	40 0 to 48 0	18 0 to 21 0	...
1873	17 0 to 18 0	34 0 to 40 0	9 0 to 12 0	...
1874	18 6 to 26 6	30 0 to 34 0	9 6 to 13 0	...
1875	25 0 to 32 0	34 6 to 36 0	12 6 to 16 0	...
1876	20 0 to 24 0	30 0 to 34 6	9 6 to 12 0	...
1877	20 9 to 26 0	28 0 to 30 0	10 0 to 12 0	...
1878	18 9 to 25 0	27 0 to 32 0	8 6 to 11 6	...
1879	15 0 to 17 0	(‡)	7 0	...
1880	20 0 to 24 0	30 0 to 32 0	10 6 to 11 6	14 0 to 15 0
1881	17 0 to 21 0	27 0 to 30 0	5 0 to 9 6	12 0 to 13 0
1882	14 0 to 18 0	27 6 to 28 0	7 6 to 9 6	13 0 to 14 0
1883	13 0 to 18 0	26 0 to 28 0	6 6 to 8 6	11 6 to 12 6
1884	13 0 to 18 0	26 0 to 28 0	6 6 to 8 6	11 6 to 12 6
1885	12 0 to 17 0	22 6 to 26 0	6 0 to 8 0	11 6 to 12 0
1886	13 0 to 18 0	23 0 to 27 6	6 6 to 8 6	11 6 to 12 0
1887	14 0 to 22 0	23 0 to 28 0	7 0 to 9 0	11 6 to 13 0

* Not quoted. † From 30*s.* upwards. ‡ Prices very low.

SHEEP AND WOOL IN INDIA.

REPORT BY CONSUL MOREY, OF CEYLON.

I have to report that sheep are not bred here to any extent, nor are there any local wool manufactures.

Most of the sheep for mutton are imported from the Coromandel coast of India, the animals not being wool-bearing, but having hairy coats like goats.

The wool-producing sheep of India, so far as my knowledge extends, are found mostly in Cashmere, Afghanistan, Beloochistan, and the northwestern provinces of Hindostan generally. Bengal also produces sheep, but the wool is mostly coarse, hairy, and poor.

The most beautiful fabrics in the world are made from wool in India, and have been so made from time immemorial. For instance, in the matter of shawls, any admixture of silk even with the wool detracts seriously from the value of the article.

Of course, these remarks are merely cursory, and, so far as they refer to India, are, perhaps, beyond my province.

The following newspaper extract, commenting on the opening of the first wool mill in the Bombay presidency in June last, may prove interesting, and doubtless the consul-general at Calcutta and his colleague in Bombay will be able to afford the Government all the information desired on the interesting subject:

A NEW INDUSTRY IN BOMBAY.

[From the Bombay Gazette.]

The manufacture of woolen goods is one of the most recent additions to local industry. Only a little more than a year ago a company calling themselves the Bombay Woolen Manufacturing Company was established for opening a wool mill in Bombay. In the month of June last their mill near Dadur, the first wool mill in the presidency of Bombay, was opened for work. Three experts were brought out from England to superintend the different departments—one for the dyeing and finishing, another for the spinning, and the third for the weaving. In the month of August work was begun in earnest.

W. MOREY,
Consul.

UNITED STATES CONSULATE,
Colombo, Ceylon, October 27, 1890.

SHEEP AND WOOL IN PALESTINE.

REPORT BY VICE-CONSUL CLARK, OF JERUSALEM.

The locations in which the sheep are kept are Gaza, Nabloos, and the most in Hebron, which are brought to Hebron from the Moabite countries by the Bedouins, and the whole area being about 2,000 square miles.

The number kept in flocks is from 500 to 800, and the total number of sheep in each province is as follows: Gaza, 2,000; Nabloos, 3,000; and

Hebron, 5,000. No distinctions exist; all are of the same kind, called the Barbary broad-tailed sheep.

The sheep in this country are shorn in spring in the most primitive manner, and the largest quantity of wool is sent to Jaffa, whence it is shipped to Smyrna, and there, after being mixed with better qualities of Asiatic wool, it is marketed. The wool exported is never washed or cleaned, but that used by the peasants for weaving and for the native families is washed in a common way.

As the whole of the wool of this country is shipped to Smyrna, where it is made up for market, we have no grades of wool or names for such.

The clip of 1889 amounted to about 350 cantars (210,000 pounds), while that of the year 1890 is about 300 cantars (180,000 pounds). I inclose a sample of three different parts of the fleece.

As to the local manufactories, there are none, only a few looms in the district of Gaza, where they weave a few hundred peasants' coats, or *abbaïs*, for local use.

HERBERT CLARK,
Vice-Consul.

UNITED STATES CONSULATE,
Jerusalem, December 15, 1890.

SHEEP IN ARABIA.

REPORT BY CONSUL JONES, OF ADEN.

There are no wool sheep to be found within a radius of 300 miles from Aden. The sheep of Arabia (Adenwards) are of bastard breed and have a covering of short, wooly hair. No use has ever been made of the sheep hair, it being left on the animal.

I have to advise that the only area of Arabia within which any considerable quantity of wool-bearing sheep are to be found is along the rivers Tigris and Euphrates, in Mesopotamia, in latitude 30° to 36° north, longitude 42° to 48° east. The cities of Bagdad and Bassorah are the main ports of export.

JOS. A. JONES,
Consul.

UNITED STATES CONSULATE,
Aden, October 29, 1890.

SHEEP IN JAPAN.

OSAKA.

REPORT BY CONSUL SMITHERS.

Sheep are not kept in my consular district, except to a very limited extent. This is owing to the prevalence in the country of bamboo grass, which produces the scours in the sheep, and from which they shortly waste away and die. It is only by destroying the natural turf and sowing foreign grass seed that suitable pasture can be obtained. An attempt has lately been made to introduce sheep in the province of Yezo by the Government Agricultural College at Sapporo, but with what success I am unable to learn.

E. J. SMITHERS,
Consul.

UNITED STATES CONSULATE,
Osaka and Hiogo, November 10, 1890.

NAGASAKI.

REPORT BY CONSUL ABERCROMBIE.

Although many attempts have been made, owing to peculiarities in pasturage it has been found impossible to raise sheep within this consular district, all experiments with sheep imported from China resulting in failure.

W. H. ABERCROMBIE,
Consul.

UNITED STATES CONSULATE,
Nagasaki, October 27, 1890.

KANAGAWA.

REPORT BY VICE-CONSUL-GENERAL SCIDMORE.

Several attempts have been made by the Japanese Government upon its experimental farms to introduce sheep-rearing and breeding, but, owing to the peculiarities of the climate and pasturage of the country, such efforts have been almost invariably attended with failure, and I believe all attempts in this direction have been abandoned.

The mutton consumed here is brought from China. Its consumption is almost entirely confined to the foreign residents in the treaty ports.

Wool and woolen manufactures are imported. During the year 1889, for which the latest complete statistics are available, raw wool was imported into this port to the value of 282,171.14 yen.* Woolen yarn was imported to the value of 148,927.85 yen, and woolen manufactures were imported to value of 3,897,308.81 yen. Nearly all the raw wool came from Australia, the woolen yarn from Germany, and woolen manufactures from Great Britain, France, and Germany. The United States only furnished woolen manufactures to the value of 6,957.38 yen. The Japanese have, to a certain extent, made use of imported yarns for manufactures of textiles; but, I am led to believe, these manufacturing ventures have not been, in the majority of cases, profitable.

G. W. SCIDMORE,
Vice-Consul-General.

UNITED STATES CONSULATE-GENERAL,
Kanagawa, January 28, 1891.

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* During 1889 the average value of the yen was 75 cents.

SHEEP AND WOOL IN CHINA.

NINGPO.

*REPORT BY CONSUL FOWLER, OF NINGPO.**

The consular district of Ningpo embraces the whole of the province of Che-Kiang, occupying a central position with reference to the rest of China, and has a population variously estimated from 25,000,000 to 35,000,000 people. The area of this province is 39,150 square miles, and is therefore equal in size to the Kingdom of Portugal and twice as large as Denmark.

Sheep are raised in limited numbers in but few sections of this vast territory. Hoo-Chou, in the northwest corner, seems to have more sheep than any other section of this province. Here they are kept in flocks, rarely, if ever, exceeding 100 to the flock. On the great plain north of Hang-Chow-Foo, the capital of the province, the farmers keep a few—2 or 3, sometimes 7 or 8. These are kept in confinement, and the last crop of the mulberry leaves is gathered and fed to them during the autumn and winter; rice straw also furnishes food.

In the rest of the province, on account of the pasturage, sheep are rarely seen and in some parts are not known. In Hang-Chow-Foo, it is claimed, 100,000 sheep are slaughtered annually for food, but, perhaps, half that number would be nearer the mark, while in all the villages to the north sheep can be found. About 12,000 pounds of wool are sold annually in Hang-Chow-Foo, principally to Canton Chinamen.

In gathering the wool the natives shear the sheep; in butchering they do not, as a rule, skin the animal, but scald it and take off the wool as we do the hair of pigs. This wool is then dried and used, but most of the wool from this section is sold in the "dirt." The Chinese do not spin nor weave woolen fabrics. They use the wool in four ways:

(1) As manure (not very commonly).

(2) They turn the skin of the animal with the wool on, and line their garments with this fur.

(3) With the coarser wool they make pens, or, as we would call them, brushes, for writing purposes.

(4) The largest use at Hang-Chow-Foo is to make a very coarse felt, which, being made in large pieces, is used as a cover for tailors' tables; also as a cloth to kneel on in certain ceremonies of ancestral and idolatrous worship.

Wool in China is simply called "sheep's hair." While sheep, in the neighborhood of Hang-Chow-Foo and the coast ports, may be obtained in large quantities—in fact, are a staple article of food—not a pound of mutton can be had 120 miles to the north, and, although it is sometimes used as a fertilizer, yet in some parts of this same district, especially near Kin-wha (in this district), wool is so scarce that the boatmen in winter wear stockings made of human hair. The Chinese do not attempt to explain this. Rev. R. V. Lancaster, an American missionary, gives as a possible explanation that in Hang-Chow-Foo there is a colony or church of Mohammedans with a large mosque, and they, eating mutton, have taught the other Chinese.

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* The Consul acknowledges his indebtedness to the Rev. R. V. Lancaster, of the American Presbyterian mission at Hang-Chow-Foo, for the greater portion of the information contained in this report.

Sheep in this district are kept only for food, not for the wool. The variety of sheep which alone is seen here is the bent-nose, broad-tailed variety; the tail is a lump of fat, sometimes weighing 2 pounds or more.

Sheep are mentioned in the earliest books of the Chinese. Confucius makes mention of them in "Analects, book 3, chapter 17:"

> Tsze Kung wished to do away with the offering of a sheep connected with the inauguration of the first day of each month. The master said: "Tsze, you love the sheep; I love the ceremony."

The Emperor in the last month of the year gave out to the princes a calendar for the first days of the 12 months of the year ensuing. This was kept in their ancestral temples, and on the first of each month they offered a sheep and announced the day, requesting sanction for the duties of the month.

Another interesting point is that, while the sons of hog-butchers, along with the sons of harlots and some others, are denied the privilege of competing at the literary examinations, no such disability attaches to sheep-butchers. Of this the Chinese give no explanation. This reminds one of the Jewish distinctions. Again, it is the felt made of sheep's wool that is knelt on at the temples.

Owing to the fact that the Chinese keep few or no statistics, it is next to impossible to obtain any data that would be reliable, and on this account it would be better not to give any estimate of the number of sheep in this district, as it would be but sheer guess work.

I inclose herewith two samples of wool clipped at Hang-Chow-Foo, and also a sample of felt; the red color is used in devotional exercises, the white for tailors' benches.

JOHN FOWLER,
Consul.

UNITED STATES CONSULATE,
Ningpo, January 28, 1891.

FOO-CHOW.

REPORT BY CONSUL GRACEY.

There are no sheep raised or kept in this province; they can not live here. Efforts have been made to raise them for the tables of the foreign population, and for this purpose sheep have been brought from Shanghai; but, soon after their being brought here, they begin to decline and soon die off. All that we use on our tables now is sent, ready dressed, from Shanghai.

No domestic wools of any kind are manufactured in this province. The natives use but very little manufactured woolen goods. There is a small trade in skins with the wool upon them carried on with the northern provinces, which the natives make into outer garments to be worn in the coldest season of the year, but not enough to be regarded as of any commercial value.

SAMUEL L. GRACEY,
Consul.

UNITED STATES CONSULATE,
Foo-Chow, November 29, 1890.

THE MALAY GOLD MINES.

REPORT BY CONSUL WILDMAN, OF SINGAPORE.

On September 22, 1890, I gave the Department some details in regard to the newly opened gold field at Raub, province of Pahang, Malay Peninsula, and cited the result of the first crushing of ore. On the 27th of December, 1890, the following telegram was received from the superintendent by the local secretary of the Raub-Australian Syndicate (limited), in this city:

> KWALA KUBU, *December 27, 1890.*
>
> Crushing finished. Four hundred and ninety tons stone yielded 760 ounces smelted gold. Left to-day with gold for Singapore via Salangore.
>
> BIBBY.

The above return does not average out as high as the previous one, but it is stated that the fact arises, not from any diminution in the quantity of ore, but rather from the vein running through some former Chinese diggings. The complete output of the Raub mine is at present about $30,000 in gold.

Mr. Bibby, the superintendent, called on me to obtain data in regard to process of mining by electricity in my own State (Idaho). In conversation he informed me that the development of gold in the Malay Peninsula was but a question of a few months, and that their greatest drawback at present was a scarcity of experienced miners; that, with a corps of American miners to direct the Chinese coolies in the building of timber shoots and in the handling of the ore to the best advantage, the work could be pushed to a a rapid financial success.

He further stated that the ground was of a soft shale formation, with plenty of fuel and water at hand.

They are now figuring with American firms for a 100-stamp mill, water wheel, and electrical machinery, and hope therewith to open a section of country that will compare favorably with the old gold fields of the United States and Australia.

ROUNSEVELLE WILDMAN,
Consul.

UNITED STATES CONSULATE,
Singapore, January 19, 1891.

THE STATE OF TAMAULIPAS.

REPORT BY CONSUL RICHARDSON, OF MATAMOROS.

AGRICULTURE.

There are in this district no meats, cereals, fruits, or vegetables that are entering into competition with American productions. Just now there is no attempt at competition in the matter of live stock, and the cereals are imported rather than exported.

In former consular reports from this place all has been written that can be about agriculture until suitable statistics are gathered. No one now knows the area of the principal crops nor the aggregate yield. Everyone knows the exceeding fertility of the soil and the adaptability of the climate to most of the products of the temperate and torrid zones. There can be no soil anywhere better than that which is found throughout the entire State of Tamaulipas, but it has been permitted to lie fallow year in and year out.

The people are, however, turning their attention toward the acquisition of property, and they are understanding more fully than ever that they are no longer altogether dependent on rains for any given crop. Streams are more numerous in this State than any other State in Mexico and have been waiting for centuries to be turned into irrigating ditches. The more enterprising are now earnestly discussing irrigation, and this discussion is assuming practical form. Efforts have been made, but with poor success, in the direction of damming the San Juan River above Camargo. A more extensive scheme is on foot to distribute the waters of the Rio Grande throughout this valley. This scheme, if carried out, will unlock the treasures of this valley and give the people something which will make their trade more valuable.

This year has been disastrous for the rancheros, owing to the unprecedented drought. The staple crops, such as corn, cotton, and beans, are almost wholly cut off. Some cane plantations along the river that have been cared for are giving a fair yield. A trip to Brulay's sugar plantation and refinery, on the Texas side of the Rio Grande, revealed to me just what irrigation will do. It is the opinion of Mr. Brulay that there is no method of watering for this soil that equals nature's. He gets the best results when rains are frequent, but is sanguine that cane-growing, with irrigation and under the bounty system, can be made very profitable. Under the burning sun of this latitude and inadequate cultivation the soil, especially after irrigation, becomes baked hard, and the planters and farmers, like so many of their brethren in the United States, have not learned the important lesson that the best substitute for water is a frequent stirring of the soil about the roots of the plant, as, indeed, it is a necessary accompaniment of water. The sugar crop this year on this plantation is lighter than last year's, and, I think, for the reason which I have given—a lack of cultivation. From limited observations, I would say that there has been no material advance in the use of agricultural implements. Whatever advance there has been is in the increased use of our American productions.

The live stock industry is flat. There has been apparently no attempt at improvement in grade, nor will there be for some time. Blooded and "scrub" stock are alike comparatively valueless. It does not occur to the Mexican that improved stock is any more valuable for home uses. It is still quite impossible to distinguish the Mexican hog from a goat at the distance of a few rods, save in the more rapid locomotion of the former. It is said that horses were unknown in Mexico till a few Arabian horses were brought in by the Spanish. The Mexican horse, then, is Arabian. It is assumed that no improvements can be made in that stock. The Mexican ox bears some resemblance to the American ox of Texas descent. The wool produced in this State is meager in quantity and poor in quality.

Some attempts at raising cotton and cane have been made with good success. Judging from the invoices that are acknowledged in this office, the only traffic that seems to have any life in it is the traffic in bones, skins, and hair. There will never be anything more definite or satisfactory to report in respect to agriculture and kindred industries until the laws affecting the residence of foreigners and their acquisition of real estate are repealed and an intelligent and systematic endeavor made to test the capabilities of this soil. Mexico is certainly in a hopeful condition. It has a forward and expectant look, and when capital comes to the rescue existing laws and institutions, which have been such a barrier to help from the outside, will give way, and the world will begin to know the wealth that lies concealed in her mountains and valleys.

SANITARY CONDITIONS.

There seems to have been a widespread impression that the region of the lower Rio Grande and the coast of Tamaulipas is unpleasant and unhealthful. I doubt whether any climate in this latitude (from 24° to 27° north) and at this altitude is more salubrious. There is no paradise on earth, nor is there any climate so bad that it does not have its compensating features. Suddenness of change in temperature and its humidity is its main infelicitous feature, and here, doubtless, we have the cause, so far as climate can be a cause, of the prevailing lung diseases; but this same cause is found through the interior of the United States from the Dakotas to Mexico and the Gulf, and, if it be true—which I can not concede—that there are more lung diseases here than in the belt of our country to which I have referred, we may account for them on purely physical and hygienic grounds. When deaths which may be attributed to these causes are eliminated, it will be found that the major part of the remainder occur in first and second childhood. From July 1 to December 1, 1890, there were in the city of Matamoros 114 deaths. Of these 24 were infants and very old people. The infant mortality is due in large measure to inadequate parentage and ignorant midwifery; 19 died from smallpox, which, under proper sanitation, might be entirely eradicated; 25 from brain diseases, "in large measure," says a physician of wide experience and long residence in Matamoros, "due to fast living;" and 20 from consumption. These cases of consumption are found among those people who inherited enfeebled constitutions, who spent their inheritance, and then evidently expected to conduct their daily lives in utter disregard of the most commonplace rules of hygiene without paying the penalty. Of course, it is undeniable that the sudden and spiteful changes of temperature make lung diseases common, but they are made much more common from purely human causes. I find, however, resident foreigners here and across the Rio Grande, in Brownsville, speaking in enthusiastic terms of the climate—even those who have resided here long enough to become fully acquainted with its shortcomings.

BANKS AND CURRENCY.

Coming, as I have, from the United States, where banks are necessary in every business community, I have been impressed not so much with the lack of banking institutions as the inability to perceive their utility. I am more amazed that the city of Brownsville, Tex., with its population of about 6,000, should have continued up to this time without banking facilities. Every man is his own banker, having his own place for concealment of coin or a safe that can be pried open with stout fingers and trusting to chance purchases of exchange or to transshipment of coin. It would seem that the recent robbery of the steamer train on the Rio Grande Railway would suggest the importance of a more expeditious and safe method of exchange, but I have not been able to perceive any increased desire for it. There are a few banks in the Republic, and they are profitable. There is, then, no inherent impossibility or impracticability in the Mexican system. Drafts on London, New York, or even the city of Mexico are often scarce or at exorbitant premiums. Interest is usually about 1 per cent. per month, and money on good security is not always easy to get at that rate. Legal interest in the State of Tamaulipas, when no interest is agreed upon, is 6 per cent., and all above 12 per cent. is regarded as usury.

There is no question in the minds of intelligent people here in regard to the need of banking institutions, nor in regard to their ultimate, if not immediate, profitableness. Yet the conservative instinct is so strong that it is quite impossible for them to make any advance, even though clear as to the wisdom of it. There are openings for banks in every city in the Republic to the banker who has the patience and tact to enter upon and pass through the necessary stage of preliminary education.

RAILROADS.

Mexican railroads have been made the frequent subject of consular reports. They are a most necessary and interesting feature in the development of Mexico. To them more than any agency is due the fact that revolutions, at least of the kind to which Mexico has been addicted, are things of the past. The State of Tamaulipas has enjoyed large promises and so far little realization, and it is a State where railroad construction is easy, where returns from agricultural developments would be the quickest and most profitable, and a State that must be traversed by the shortest line from the centers of population in the United States to the city of Mexico and southward.

In the year 1881 the original concession for building the Mexican Southern Railway was granted. The northern division was to begin at Nuevo Laredo, at the extreme north of this State, following the course of the Rio Grande to Mier, with the privilege of constructing a branch from Mier to Matamoros, then southward via China and Victoria and crossing the southern boundary of the State at a point about 45 miles from Tampico, on the Rio Paunco River. This road, which would have traversed the entire State of Tamaulipas, opening up its richest regions and connecting with the seacoast at Brazos and Tampico, was graded 100 miles south from Nuevo Laredo and abandoned. There are no present prospects of its resurrection.

The Matamoros and Monterey Railroad, which promised to secure the trade of northern Taumalipas and that which centers at Nuevo Laredo for Matamoros, was constructed from this place along the Rio Grande about 90 miles, where it stopped among the cactuses and mesquite near the little hamlet of San Miguel. This road is now owned and operated by the Mexican National, which betrays no purpose to push it further. While mixed trains run over it every other day, it is of very little present service in developing trade. It is popularly understood that this branch of the National Road is discriminated against by the railroad company in favor of the Texas and Mexican branch, which was constructed in the interest of Corpus Christi, Tex.

The Matamoros, Linares, and Matchuala Railroad, which promises to make Matamoros the port of entry for a large and productive portion of the interior and the possible eastern terminus of a transcontinental line, is completed for about 25 kilometres and work suspended awaiting more money and another contract.

The Matamoros and Victoria Railroad, with extension to San Luis Potosi, popularly known as the "Cuellar concession," was modestly inaugurated a few months ago, and construction is going on effectively. It will doubtless be completed to Victoria at an early day, thus reducing a round trip to the capital from 14 days to 2 days. The action of the Mexican Congress just before its adjournment in December last, making payable its subvention after the building of every 25 kilometres, renders its completion possible. There are many local reasons for considering this road the most hopeful of all.

In 1889 a concession, known as the "San Roman," was granted to the Continental Railroad Company, connecting Matamoros and the north with Guatemala on the south. This road is at present entirely on paper, but its friends seem assured of its ultimate construction and operation.

I have made no mention of roads connecting Brownsville with different points in Texas. There are said to be five projected, one of which, the Corpus Christi and South American, is in process of construction, though much embarrassed by the present stringency at money centers. The real key to any railway communication with central points in Texas is the building of some road south or west from here that will tap the resources of the State of Tamaulipas and interior. There seems to be no lack of railroads on paper. The air is full of promises—promises that must, in substantial measure, be realized. The fact that many roads have been projected is full of significance and hope. This old Mexican city, with its past rich historical and commercial interest, will not be passed by, though at present there is anything but confidence among business men.

The one mistake that appears to have no justification was the failure to complete the Matamoros and Monterey Road to Monterey. This error on the part of the present management is another illustration of the folly of attempting to operate against natural law. Corpus Christi never was a trading point for any part of Mexico. All northern Mexico found its outlet to the sea at Matamoros as naturally as the waters of the Rio Grande. Matamoros is the key to the river trade. A railroad from here to Monterey would pass through the rich and populous towns of Reynosa, Camargo, Ceralvo, with Mier and Guerrero, in Mexico, and Edinburg, Rio Grande City, and Roma, in Texas, as tributaries. It would pass through a fertile region. The Texas-Mexican branch of the Mexican National, connecting Corpus Christi and Laredo, for which the Matamoros and Monterey was sacrificed, passes through a desert region, and is only maintained at a great and constant loss, the little Matamoros division, which is not even permitted to have the monopoly of transportation to Camargo, contributing from its earnings to run its expensive rival. The attempt to make Monterey, which is the great distributing point for northern Mexico, tributary to Corpus Christi results in the building of the Monterey and Mexican Gulf Railroad through to Tampico, thus forcing the seaboard trade of northern Mexico away from both lines of the Mexican National. Mexico prefers to build up her own cities, and she will now give to Tampico what was sought to be diverted from Matamoros to Corpus Christi.

DECLARED VALUE OF EXPORTS.

I have inclosed a comparative table of exports. This table is doubly comparative. It shows the value of exports for the fiscal years ended June 30, 1888, 1889, and 1890, and for the half year ended December 31, 1890, and this exhibit is made from both the books of the Brazos de Santiago customs district and the invoice book of this consular district. These two districts are so nearly identical that comparison can easily be made. A difference in declared values will be seen, which may be accounted for in incidental differences of exchange, the value of goods bought in Matamoros and not subject to invoice, and the reduction in live stock after being invoiced at consulate and before entry at custom-house. The collector of customs at Brownsville has never required an invoice of Mexican coin, so it never appears in the invoice book of the consulate. The 6 months ended December 31, 1890, indicate a large falling off in exports. One-half of this deficit is due to the cessation of traffic in live stock. The other half is due, in some measure, to the prolonged and unprecedentedly disastrous drought, in some measure to severe conditions imposed upon trade, but it is more largely indicative of a real decline in business at this point. It is thought by some careful observers, and hoped by all, that trade will not go below the figures indicated in the half-year exhibit for 1890.

Table showing the value of declared exports from the consular district of Matamoros for the fiscal years ended June 30, 1888, 1889, and 1890, and also the half year ended December 31, 1890.

Description.	According to custom-house books.	According to invoice book.
Fiscal year ended June 30, 1888:		
Merchandise	$329,703.00	$307,885.54
Mexican silver coin	175,959.00	
Total	505,662.00	
Fiscal year ended June 30, 1889:		
Merchandise	362,808.00	370,101.31
Mexican silver coin	133,704.00	
Total	496,512.00	
Fiscal year ended June 30, 1890:		
Merchandise	330,684.00	325,940.69
Mexican silver coin	165,879.00	
Total	496,563.00	
Six months ended December 31, 1890 (merchandise)	99,189.00	81,185.17

The above values are expressed in United States currency at rates of exchange fixed by the Secretary of the Treasury.

OUR PRESENT TRADE WITH MEXICO.

Mr. Sutton, in his report from this place bearing date of October 16, 1880, says:

> If the American merchant is desirous of entering into the Mexican trade, it is necessary that the work shall be carefully studied and then pushed steadily, a thing which the American merchant does not seem to realize, for at least some American dealers have spells of enthusiasm and relapses of indifference regarding the export trade of Mexico.

This characterization of American trade and traders in Mexico 10 years ago is referred to just now as characteristic of our American policy. If we would command the markets of Mexico, there should at least appear to be a consistency of policy and legislation that will give assurance and hope to Mexicans who are partial to us and to any among Americans who may feel inclined to exercise the care and patience requisite to turn trade from the channels in which it has been long running. Ease of access to Mexico is not merely a matter of transportation nor of a mutually low tariff; it is largely a question of disposition and favorable inclination. It should be our policy, if we would secure the foothold which European manufacturers and merchants appear to have, to secure Mexican good will and encourage frequent commercial incursions from one country to the other. Mexican confidence and favorable inclination we have not enjoyed in the past, nor do we enjoy it now as fully as we ought that our trade may have the preference.

Another and apparently very great impediment to our increasing trade with Mexico, if I may use the expression, is the lack of American enterprise. In the opinion of most men that I meet the main reason why American merchants do not control the market for which they compete is their remarkable indisposition to meet the demands of Mexican trade in quality as well as quantity and to conform to its existing conditions. We are willing to give them what we want, but not what they want. English, French, and German merchants do not rely upon the drummers with headquarters at home. Branch houses or agencies are established and every endeavor made to cater to the needs, tastes, and even whims of the people. The import trade in many most important lines is really no longer in the power of Mexico to give. It is in the hands of European merchants who have their branch houses here which are apparently Mexican, who have identified themselves with Mexican interests and commend themselves to that pride of independence and self support characteristic of every people. They do not try to do business on the conditions of their own home trade. They seek to supply the Mexican market rather than force the Mexican to patronize the European. They seek by long residence and thorough familiarity with the people to furnish the goods that will be most readily salable and on terms most convenient to the Mexican retailer. The American merchant of the past seems to have been indifferent to, or impatient of, these requirements, and so has failed where he might have succeeded. The Mexican consumer has his own standard of styles and qualities and is too conservative to yield readily to an importer for whom he has had no great fondness.

It must not be forgotten, however, that in some lines of trade, and particularly on this frontier, the United States has no real competition. This is true of machinery, agricultural implements, arms, ammunition, edged tools, watches, clocks, groceries, and cottons.

I am not aware of suggesting anything new in this connection. It seems new to me, however, and true. The eyes of all our merchants and manufacturers are turned hither as never before. Millions of dollars have been expended in investigating trade with Mexico and sister republics in Central and South America, acres of reports and statistical tables have been prepared, and yet that advance toward the command of these markets which we covet has not been made that ought to have been made. Why? Because our laws are not yet adjusted to facilitate exchange, and our traders have not been willing "to go to the mountain;" they would bring the mountain to them. If the United States would dominate the Americas commercially, she must become thoroughly imbued with that purpose and strip to the work. But the present condition in trade at this point is not wholly due to a lack of perfect reciprocal relations; it is due, in part, to a lack of transportation, in part to new tax laws that have driven some merchants out of business, in part to the unprecedented drought of the past 2 years, and in part to an invincible

Mexican ignorance of what a stream of water flowing through the land is for and an incomprehensible indifference to the riches that lie concealed in the mountains and plains of this wonderfully favored land. Back of all this, of course, is Mexico's paralysis, caused by her partiality for revolution, and from which she is slowly and certainly recovering. To wars and rumors of wars is due, in large measure, her wretched commercial and industrial inertia, her indifference to her resources. When the Mexican awakens to the blessings of a stable government and realizes the fact that railroads are cementing Mexican unity and making revolutions of the sort in which they have been indulging forever impossible, he will begin to inquire if it would not be well to engage in agriculture as an industry and if there might not be some better way of assuring uniform profits from that industry than dependence upon "the early and latter rains," which so often come too early or too late to assure full crops. Revolutions as a *modus vivendi* are a thing of the past. The confidence which comes from this changed condition is the sure basis upon which we calculate future trade.

Trade means exchange, and exchange implies exchangeable products. In the establishment of better trade relations with Mexico, attention ought first to be given to the development of her resources. The construction of railroads and irrigating ditches, the opening of mines and of markets, the knowledge on our part that when among Mexicans we must trade as Mexicans trade are preliminary and necessary steps. More than all this, it should be borne in mind that the impulse and enterprise must be Mexican. Antiquated prohibitory laws, contrary to the spirit and even the letter of the constitution of 1857, render any acquisition of real estate, rural or urban, by a foreigner difficult, if not impossible. It is possible for the citizen to move rapidly and successfully in all these processes of development, but not for the foreigner. In this discussion of present trade conditions I have tried to make clear the fact that all depends upon the creation of large demands for our manufactures, demands which proceed from new wants and the acquisition of means to satisfy these wants, and, what is equally important, winning the confidence and friendship of our sister Republic.

The most striking characteristic of the year and the people is the widespread and profound depression. To say that times are hard is to use a mild expression. A prominent merchant remarked to me that we were suffering from the loss of money sent out of the country in exchange for corn, and that in a corn-producing district. While this statement may appear exaggerated, it is strictly true when we speak of corn as representing the articles of food that are indigenous here. Instead of having some produce to sell, all have to buy, and this state of things has lasted for 2 years. People are starving all about, as there is no work. Business men are "living upon themselves" in the hope that rains and railroads may reimburse them. If the consul was paid for the wear and tear upon his sympathies, he would be one of the best-paid officials in the service. There are more nonprofessional beggars about this office than business men.

This state of things will not long continue. We are entitled to rain, and a country so rich agriculturally will soon be brought into touch with markets. The prospects for crops this year are good and business must revive.

JOHN B. RICHARDSON,
Consul.

UNITED STATES CONSULATE,
Matamoros, February 17, 1891.

THE STATE OF AMAZONAS.

REPORT BY CONSUL KERBEY, OF PARA.

The following data, though incomplete, shows the importance of the Amazonian trade, which is not at all cultivated by American merchants.

The statistical data are extremely interesting which the collector's office at Manaos has recorded for the year 1890, just ended, with reference to the public income, and also the official value of its direct ocean and home river exportation.

RECEIPTS AT MANAOS.

The receipts foot up a total of 2,165,306 milreis,* which is distributed under the following heads:

	Milreis.
Exportation:	
Duties on home river exports	957,488
Duties on direct ocean exports	421,008
Interior taxes on private property	66,917
Special income:	
In favor of the Amazon Steam Navigation Company, 3 per cent	491,223
Duties collected at the collector's office wharf, equivalent to 15 reis per kilogramme, for rubber exported	99,130
Extraordinary, regulation fines, etc	751
Deposits, emoluments and income of municipal councils	128,788
Total	2,165,304

TRANSIT EXPORTS.

The transit trade with the bordering republics records an exportation of rubber to the amount of 1,636,909 kilogrammes, equivalent to an official value of 3,281,108 milreis, which belongs to the different countries as follows:

Republics.	Quantity.	Official value.
	Kilos.	*Milreis.*
Peru	1,168,909	2,131,981
Bolivia	432,548	1,119,666
Venezuela	7,976	29,461
Total	1,636,909	3,281,108

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* 1 milreis = 54.6 cents.

FOREIGN EXPORTS.

The amount of produce of the State of Amazonas sent abroad for the year 1890 is as follows:

Produce.	Quantity.	Official value.
		Milreis.
Rubber, kilogrammes	6,608,692	15,663,464
Dry fish, do	566,466	187,030
Cacao, do	151,945	60,793
Skins and hides, do	144,890	348,881
Oils, do	25,278	31,199
Piassava, do	431,215	122,374
Sarsaparilla, do	8,828	3,690
Brazil nuts, hectolitres	28,290	315,876
Animal oil, litres	12,116	4,552
Total		16,737,859

INCOME OF INTERIOR COUNCILS.

The income of the councils alone in the interior of that important State reach the figures of 168,808 milreis, belonging to the following municipalities:

	Milreis.
Manicoré	17,954
Labrea	60,824
Urucará	436
Humaitá (River Madeira)	32,865
Teffe (River Solimoens)	27,829
Coary	8,104
Codajás	4,012
Silves	63
Borba	9,539
Barcellos	4,321
Itacoatiára	834
São Paulo d'Olivença	2,027

This income does not represent the total belonging to the said municipal councils, but is merely that coming from duties collected by the collector's office from the produce shipped at points distant from the seat of the municipality (county seat), and the payment of whose tax could not be made there.

FUTURE OF THE STATE.

The figures which are here transcribed entirely demonstrate the value of the public wealth of the State of Amazonas and the high worth of the great resources at its disposal, for it is well to remember that the receipts of the collector's office, arising almost entirely from the exportation of natural products, are still not the general amount of the income of the State booked in the treasury and coming from other contributions and from the amounts gathered by subcollectors.

The prosperity of the State of Amazonas and the immensity of its great and splendid future are unquestionable. Already the English and German capitalists who are located permanently, through agents at Para, are beginning to transfer their interests in this direction by the establishment of branch houses at Manaos. This is 1,000 miles up the Amazon.

No American steamers ascend this great river, and no effort is being made by the consumers of three-fourths of the product of the valley to sell any of their own manufactured goods in exchange. Probably the American people do not fully comprehend the importance of the immense field that is being quietly developed by our competitors.

JOSEPH O. KERBEY,
Consul.

UNITED STATES CONSULATE,
Para, February 25, 1891.

MANAOS-NEW YORK TRADE.

[Inclosure in Consul Kerbey's report.—Report by Consular Agent Baird.]

The increase of trade between this port and that of New York during the past 3 or 4 years is amazing, especially taking it from January, 1888, when the steamer service run under contract with this State was increased, and which, although it had been in existence ever since the year 1882, only commenced to show vivid signs of reality from 1888 forward, when the annual voyages of the steamers of said line were increased from four to six. Since, by force of the same contract, a like increase from six to nine voyages has taken place, and which even now is insufficient, proved by the fact that the steamer *Cyril* of the Booth line is expected on an extra voyage from New York via Para on the 26th instant.

I am very sorry that official statistics have hitherto been so sadly neglected at this point, or I would be glad to send by this mail a comparative showing of the increase above referred to. Data for the past 3 months, compared with the same period last year, show the same steady increase above mentioned. Those of August show that the official value of coastwise cargo (*cabotagem*) this year exceeded by 607,593 milreis that of 1889, whilst that shipped to the consuming markets (*longo curso*) figured no less than 546,874 milreis, against 258,480 milreis during the same period in 1889; the grand total amounted to 1,385,834 milreis, against 489,847 milreis in 1889.

The above, I may here mention, refers to provincial and State taxes, which to-day figure at 13 per cent. on official value, in addition to which there is a General Government tax of 9 per cent., exclusive of 2 per cent. municipal or town dues, equal in all to 24 per cent. On rubber from inland the tax of 9 per cent. is charged at the Para custom-house. When the rubber is not landed for sale on this market, a reduction of 3 per cent. is also made by this State government, which means on rubber shipped direct to the consuming markets.

Shipping opportunities are at present mostly to Europe by the Red Cross line of steamers, likewise running under contract with the government of this State, and, like that of the Booth line, call at the same river ports, viz, Itacoatiara and Parartine, both belonging to this State, whence they proceed to Lisbon, Havre, and Liverpool.

JAMES BAIRD,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Manaos, February, 1891.

TRADE AND COMMERCE OF MARACAIBO.

REPORT BY CONSUL PLUMACHER.

EXPORTS TO THE UNITED STATES.

Coffee.—The exports of coffee to the United States in 1890 were nearly 4,000,000 pounds less than in 1889, the amount invoiced being 34,217,604 pounds, valued at $6,522,338.13 United States gold. One reason for this decrease in the quantity exported is that various of the great houses which have sufficient capital to permit such a proceeding frequently keep very large amounts in store for many months while awaiting a rise in prices abroad; for example, one firm has at present a supply of coffee to the value of nearly $500,000, which will be exported when prices are such as to give the desired profit. Of course, it is only a very wealthy firm that can afford to lock up capital for months at a time, but the system has always given good results in the end.

Cacao.—The exports of cacao have nearly trebled during the past year, the quantity invoiced to the United States amounting to 158,324 pounds, valued at $31,788.66. Should cacao be more extensively cultivated, this section will be greatly benefited both on account of the exceptional prices which the Zulia article commands in foreign markets and because the district will become less dependent for its prosperity upon the one sole staple of coffee.

Copaiba.—There has been a falling off in the exports of copaiba and other gums, which is to be much regretted, as the forests of this section are abundantly supplied with these valuable products and their extraction is attended with large profits. The amount shipped in 1890 was 20,991 pounds, of an invoice value of $12,315.15.

Divi-divi.—For the past two years divi-divi has been shipped to the United States as an experiment. It is extensively used in Europe as a substitute for bark in tanning leather, but it has not met with much favor in the United States, and the quantity shipped thereto during 1890 was much less than in the preceding year, amounting only to 96,108 pounds, valued at $1,662.84.

Fish sounds.—This industry is on the increase, and is carried on with more system than formerly. The demand for fish sounds in the United States always exceeds the supply, and prices are therefore high enough to give large profits. The increase in the shipments during 1890 was considerable, these amounting to 73,361 pounds, at an invoice value of $19,362.72.

Hides and skins.—For years there has been but little difference in the quantity of hides and skins exported to the United States; but during the past year there was a considerable decrease, the exports of hides amounting to 639,528 pounds and those of skins to 164,671 pounds, of the respective values of $60,764.38 and $36,694.43. As I have previously stated in this connection, there is no reason why a tannery at Maracaibo, united to a boot and shoe factory and a saddle and harness shop, should not give most excellent results. The raw material is abundant and cheap, and the supply of divi-divi is inexhaustible, and, while this bean is not equal to first-class oak or hemlock bark, it fully answers all the requirements of this country.

Woods.—The amount of the various woods exported during 1890 was only one-half of that shipped in the previous year, but, notwithstanding this decrease, it is gratifying to note that several varieties of valuable woods hitherto unknown in the United States have been shipped thereto for trial and have been very favorably received. When it is known that, out of more than one hundred hard construction woods which abound in this district, only three or four varieties have been brought to the notice of the outside world, the great possibilities of this branch of export are evident. The total value of all exports to the United States during the year was $6,711,073.87, as against $7,097,300.83 in 1889; but this falling off does not by any means indicate a decrease of local prosperity. I hope to be able to report, as the spring advances, increased commercial activity in the relations between this district and the United States, and, indeed, our manufacturers and exporters seem to be taking more interest in securing this important trade.

IMPROVEMENTS IN MARACAIBO.

It has always given me pleasure to report a steady yearly advance in the prosperity and civilization of Maracaibo and the State of Zulia at large, but I must heartily admit that at no time during my residence in this city has the progressive spirit of the people been more manifest than at present.

Street cars.—Lines of street cars intersect each other and extend a considerable distance into the country, as Maracaibo is rapidly extending in all directions.

Maracaibo annex.—North of the city there is a high plateau of level ground several square miles in area, which has been granted by the municipality to a building association, and a new city, which will be, however, a practical extension of Maracaibo, will soon spring up. The scheme is a daring one, but has every prospect of success, as the population is greatly on the increase and houses are in constant demand. A steam line 5 or 6 miles in length will run through Maracaibo proper and the proposed "annex," and the new city, as a residential district, will be far superior to the old, as even in times of epidemics the plateau which will form its site has always been free from disease, and it is even said that a case of yellow fever has never appeared among the inhabitants.

Water supply.—Its elevation above the level of the lake makes a difference of several degrees in the temperature, and the only apparent drawback is the nonexistence of water, which, however, I am satisfied, from personal investigation and examination of the geological conditions, can be easily secured at no excessive depth by means of artesian wells. It seems rather extraordinary that, notwithstanding the importance, progress, and population of Maracaibo, it is still entirely dependent for its supply of fresh water upon the very primitive method of catching rainwater in cisterns. It is true that several years ago large sums of money were expended in a tubular acqueduct about 2 miles in length, leading from wells dug where there was supposed to exist either a subterranean river or a practically inexhaustible deposit of fresh water caused by the filtration of the rain down to a bed of stiff, impenetrable clay. There was much difference of opinion among engineers as to the probable results of this project, but the doubters were overruled, the wells were dug, and steam pumps set to work to raise the water to a large masonry reservoir, from which the force of gravity alone impelled it to the city, where various fountains were erected for its distribution to the public and pipes laid in the houses of those who so desired. The scheme, however, as might have been predicted from the first, resulted in disappointment and failure. First, there was no subterranean river, and, second, the water found was more of a filtration from the semisaline lake than from the rain, being, moreover, so strongly impregnated with saltpeter that for drinking and culinary purposes it was entirely unfit, and even inferior to the water of the lake. For irrigating purposes and for washing it can be used; but, instead of having, as was fondly imagined by the originators of the project, an ample and never-failing supply, the wells occasionally become nearly dry, so that even the public gardens suffer for want of irrigation. Various other projects have been discussed, and within the past few days the government of the State has entered into a contract with an individual, who for certain considerations guaranties to supply Maracaibo with 500,000 litres of fresh water daily, and more, if necessary, upon additional remuneration. The water is to be brought from the River Palmer, over a broken country, through pipes of 40 centimetres in diameter, which, I much fear, will not be of sufficient size, considering that the distance is about 65 miles and the water of the Palmer at times very turbid, holding in solution much earthy and other organic matter. I sincerely hope the scheme may be successful, but I have my doubts. When all the circumstances are taken into consideration, it seems very evident to me and many others competent to form opinions on the subject that the very vital problem of a satisfactory supply of water can only be solved by means of artesian wells, and I venture to assert that by thus expending one-third of the amount already thrown away in worthless projects Maracaibo would within a twelvemonth be blessed with an abundance of the sparkling element.

THE STATE OF ZULIA.

Restoration to statehood.—Since the restoration to Zulia of her State autonomy, of which she was so despotically deprived in 1881, business of all kinds has become more brisk, and it is believed that the present year will witness the establishment of new industries and works of progress. The railway which is to connect Lake Maracaibo with the great Cordillera is steadily progressing, and trains are running for a distance of about 20 miles into the interior.

Railways.—The often-talked-of project of connecting by rail this city with the fertile district of Perija has as yet resulted in nothing practical, but a fortune is awaiting anyone who will take the matter seriously in hand.

Coal and petroleum.—The enormous deposits of coal and petroleum within easy reach of the lake coast are still lying idle, and thousands of gallons of the latter are running to waste daily.

Timber.—The almost incredible timber wealth of the forests is as yet practically unexplored, and the mines of valuable metals known to exist on the Colombian frontier remain untouched.

Capital wanted.—Almost in any direction and in any branch of industry this district is ready to yield great riches, and I still have hopes, although the experience of past years has made them but faint, that when the day for the development of these many sources of wealth arrives our own countrymen may be found in the van. I frankly confess that, were I a capitalist, I would not look further than Zulia for the investment of my surplus means. Since the reërection of Zulia into a sovereign State it has been governed by a provisional president appointed by the national executive. This was a wise arrangement, as local political passions here were running high, and the months of provisional government by an official who has no special leaning towards any of the parties or personalities of the State have had the effect of calming the excitement incident upon a change of administration and lessening the force of political animosities, which here almost take a personal turn.

Now, however, the provisional government is drawing to a close, and on the 1st of next month the State will fairly enter upon self-government through the medium of authorities of its own election.

BOUNDARY LINES.

The people of this section especially are awaiting with much interest the decision of the Spanish Government respecting the boundary of Venezuela and Colombia in the Goajira peninsula. Should the arbitration result in favor of Venezuela, the proposed railway from this city to Bahia Honda, a fine port on the west coast of the Goajira peninsula, may soon be commenced.

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, January 13, 1891.

SHIPPING AT GORÉE-DAKAR.

REPORT BY CONSUL STRICKLAND.

There were entered at this port, of all nationalities, during the quarter ended December 31, 1890, 557 vessels of 163,425 tons manned by 7,079 men, and there were cleared during the same period 595 vessels of 165,497 tons manned by 7,349 men. The apparent small size of the vessels, judging from these figures, is due to the fact that some small cutters are included which trade with the British settlements on the Gambia and the Portuguese on the Rio Grande. These count in numbers, but not much in tonnage. The steamers trading here range between 1,000 and 6,000 tons each. The duties (5 per cent. ad valorem) collected, including octroi, amounted to 905,603.55 francs.

Statistics from officials here are difficult to obtain on account of instructions they have received to be reticent. There was quite an excitement in the colony a few years since, owing to a rumor that a certain Pole in the employ of the colonial government at Dakar was in correspondence with German officials. This led to the adoption of the policy which has since been persevered in.

PETER STRICKLAND,
Consul.

UNITED STATES CONSULATE,
Gorée-Dakar, February 17, 1891.

PORTLAND CEMENT.

REPORT BY CONSUL-GENERAL NEW, OF LONDON.

MANUFACTURE.

The manufacture on an extensive scale of Portland cement, which is the trade name given to nearly, if not quite, all the cement made in England, is a comparatively new industry, having been developed almost entirely within the last 25 years.

It is made cheaper and of a superior quality in England for the reason that its constituent elements, *i. e.*, chalk and clay, both of a peculiar chemical formation, are found here in great abundance in the same localities and easy of access. The manufactories are principally located in the counties of Essex, Surrey, and Kent, on the Thames, Medway, and tributary rivers, which afford cheap transportation for the raw and manufactured product.

These manufactories, about forty in number, represent a very large outlay of money and labor and employ thousands of men all the year. In addition to these, there are a few smaller cement manufactories in northern England, which do not enter seriously into competition, however.

The process of manufacturing is not complicated and requires no great amount of machinery aside from the mills used in crushing. Both the clay and chalk, which are found in the so-called cement district, are very plentiful, close to the surface, and easily quarried. Their mixture in the proper proportions is made by experts very carefully, and, after the amalgamated product is properly calcined, it is crushed, tested, and packed ready for shipment. The chief difficulty in the manufacture is found in unexpected chemical combinations, which frequently occur, and which so alter the character of the product as to make it unproductive of the best results.

For this reason each day's product is very carefully tested as it comes from the mill, and if it falls below the standard it is rejected.

A cement that answers all the requirements possesses the following qualifications:

(1) Fineness to be such that the cement will all pass through a sieve having 625 holes to the square inch, and leave only 15 per cent. of residue when passed through a sieve having 2,500 holes to the square inch.

(2) Weight per striked bushel to be not more than 116 pounds nor less than 112 pounds.

(3) Specific gravity to be between 3 and 3.05.

(4) A pat made with the minimum quantity of water to be set in not less than 3 hours, nor to take more than 6 hours.

(5) Tensile strength. Briquettes which have been placed in water 16 or 17 hours after gauging to carry, at the expiration of 7 days, 400 pounds per square inch without fracture, and at the expiration of 28 days from gauging to have increased in strength at least 25 per cent.

(6) Expansion or contraction. Pats left in air or placed in water to show no cracks or other signs of deviation in form.

(7) Color. The cement to be of a cold gray color, and when gauged to show no change if left in either air or water.

A cement that possesses the foregoing properties may be considered a fair sample of a true Portland cement and would be suited to any work where great ultimate strength is required, and at the same time it is such a specification that no manufacturer would object to work up to.

It is the contention of the manufacturers here that their cement is of a better quality than that made in any other country, for the reason that the materials are better and freer from impurities. Portland cement has for its base before calcination carbonate of lime, which is generally found here naturally combined with silica and alumina, or the mixture is artificially arrived at, and the proportion which these ingredients bear to each other, the intimacy of their mechanical mixture, and the degree of heat to which they are subjected determine the quality and properties of the result, so far as the chemistry of the product is concerned.

The fineness to which the grinding is carried, the warehousing, and the care bestowed in the manufacture likewise have a determining result on the product.

The various processes, particularly the proportions of the materials used, are generally kept secret, and it is very difficult to ascertain the details. In Germany and Austria and some other countries on the Continent the matter of testing cement and regulating its manufacture are taken in hand by the Government.

In England, however, only general vague laws and regulations laid down by practice have been adopted, and, as a consequence, the results obtained by different experimenters are not so uniform as could be desired, each having used the means and adopted the standards of quality which appeared to them o be best.

EXPORTS.

From the official reports on the subject, the exportation of cement from England to foreign countries during the year 1888 was as follows:

To—	Quantity.	Value.
	Tons.	
Russia	7,449	$66,200
Sweden and Norway	5,192	47,665
Germany	8,277	72,195
Holland	17,325	173,985
France	132,220	127,960
Portugal	6,250	60,990
Spain	9,576	87,005
Roumania	5,878	52,075
Egypt	10,685	93,260
China	4,220	34,195
Japan	14,826	126,955
United States	187,058	1,790,525
Venezuela	10,686	103,240
Chile	7,025	67,830
Brazil	14,324	149,320
Uruguay	9,947	96,900
Argentine Republic	57,558	552,425
Other foreign countries	15,170	157,980
British colonies	208,128	1,984,295
Total	612,702	5,825,000

No figures are obtainable as to the sale and consumption of cement in England.

COST OF MANUFACTURE.

In response to inquiries made of various manufacturers as to the first cost of making cement, evasive answers were in every case given, the gentlemen stating that for business purely they must decline to give the information desired. All strenuously insisted, however, that the business, as at present carried on and at the present prices of the product, did not give an adequate return upon the investment made. It was stated that the average profit in the business during the past few years was not in excess of 4 per cent. upon the investment and operating expenses. The present price at which cement is invoiced in this consulate-general is from 24*s*. to 26*s*. per ton, with a discount of 2½ per cent. allowed. The product is shipped in casks which are invoiced at about 2*s*. each, and which hold from 370 to 380 pounds each. Employment in the cement manufactories is generally by "gangs," *i. e.*, the men are paid in accordance with the amount of the product, and not per diem. The average wages, probably, will not exceed 24*s*. ($5.82) a week, and in many cases will fall below this.

The cement-workers in the larger concerns are generally men who have been so engaged since they were able to perform any manual labor, following the occupation of their fathers and in time transmitting it to their children. The principal competitors of the English establishments are those of Germany, which have developed rapidly in the last few years.

I have the honor to transmit herewith a pamphlet by Mr. D. L. Collins, of Messrs. Gibbs & Co. (limited), cement manufacturers on an extensive scale, on some chemical aspects of the product and tests to which it is subjected.

JNO. C. NEW,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, June 12, 1890.

PORTLAND CEMENT.

[Inclosure in Consul-General New's report.]

Although Portland cement has during recent years received much attention from engineers, the writer is not aware that any manufacturer has published the result of that experience which can only be obtained by the constant and practical attention necessary to the production of thoroughly good quality; and he therefore trusts that the following remarks as to the usual tests and the manner of their application may not only be of general interest, but limit, to some extent, the anxiety of both manufacturers and engineers.

One special reason that leads him to do this is the conviction that, whilst it is now being generally acknowledged that a cement giving a high tensile strength at short dates is not likely to prove one of a sound and progressive nature, engineers are not, perhaps, aware that by adding a "time in breaking" to the condition of tests they have really raised the standard of 750 pounds on the 1½-by-1½-inch section equal to over 1,100 pounds. It is quite possible for an expert constantly gauging with fixed conditions as to temperature and atmosphere to get this result with a safe cement, but, if the cement is to be tested by anyone with less experience, it is necessary for the manufacturer to work to a still higher standard, *i. e.*, to increase the proportion of lime to the highest possible point.

Some authorities think the danger of doing this can be counteracted by heavy burning. This is certainly not invariably the case. For instance, he has seen briquettes made from a cement weighing 123 pounds to the bushel, testing at 7 days 1,200 to 1,300 pounds on the 1½-by-1½-inch section (and which at 2 years could not be broken with a strain of 1,430 pounds), break a few months later at under 800 pounds. This was doubtless entirely due to the excess of lime which it was necessary to use in the original mixture, and he believes it is this high proportion which has been the real cause of recent concrete work failures—failures that were almost unknown before high tests came into vogue.

He would therefore suggest that a breaking strain, to be made under ordinary conditions of 700 pounds on 1½-by-1½-inch section, or, if with a time-test of 1 minute, of 600 pounds, will give safer and ultimately better work than any higher requirement.

Tensile strain is one of the conditions of a specification most stringently enforced. At the same time it should be remembered that it is a test which depends greatly on the state of the atmosphere, and still more so on the skill of the manipulator.

With regard to the latter point, it is by no means an infrequent occurrence to find two men making briquettes from the identical cement producing results varying from 25 to 33 per cent.

It is therefore specially important that tests should be made by skilled labor and under fixed conditions of temperature, proportion of water, etc.; and the writer has added at the end some rules, which, if adhered to, will be found to assist in obtaining accurate results.

Weight per bushel is only of much importance when taken in conjunction with fineness of grinding; but to get accurate comparative results the cement should be fed through a standard hopper into a bushel measure, also of standard size, placed 18 inches below its mouth.

Fine grinding, however, makes considerable alteration in the weight test, as the following figures will show: An imperial bushel of best cement, freshly ground, passing through an

80-mesh sieve and leaving 10 per cent. residue, weighs 110 pounds; leaving 20 per cent. residue, 116 pounds; leaving 25 per cent. residue, 121 pounds; leaving 35 per cent. residue, 123 pounds.

When weight per bushel is specified, it can only be ascertained by weighing a whole bushel; to weigh a given part and then multiply will not give a correct result.

All cement increases in bulk with age; therefore, the weight per bushel becomes proportionately lighter.

For this reason there will often be a discrepancy, after a long voyage, of several pounds between the weight per bushel on arrival and that ascertained at the time of shipment.

Fineness of grinding has been proved by Mr. John Grant and other authorities to be a most important factor in the strength of concrete, and should therefore have special attention.

The extra cost of production to some extent counteracts the higher quality obtained, but the following degrees of fineness should at least be required: For ordinary purposes, to leave under 15 per cent. residue, through 2,500-mesh sieve; for general engineering, to leave under 10 per cent. residue, through 2,500-mesh sieve; for special work, to leave under 10 per cent. residue, through 5,800-mesh sieve.

Water test is one of the safest guards as to the soundness of cement.

Thin cakes, or pats, should be made up and placed upon pieces of glass or other nonabsorbent material, and then, when thoroughly set, one cake should be immersed in water, the other being kept in the air. Care should be taken that the cement is thoroughly set before immersion, and for a slow-setting quality the pats may sometimes require 24 hours to become so. If after this the pats show cracks on the outer edge, the cement should not be passed, unless it can be proved that the defect is due only to freshness of grinding, and can therefore be thoroughly remedied by air slacking.

A further useful test is to fill a test tube with gauged cement. Good cement always expands slightly, so that in the course of 2 or 3 days the tube will crack; if, however, the ex-expansion is so great as to blow the glass to pieces, the cement should be regarded with great suspicion.

Chemical analysis* has no exact relation to the strength of cement, but is chiefly useful in detecting any excess of sulphur or magnesia, which are both regarded as dangerous elements, if present in any large percentage.

The following gives the average composition of a sound cement:

Composition.	Percentage.	Composition.	Percentage.
Lime	59.2	Alkalies	0.5
Silica	21.7	Magnesia	0.64
Alumina	9.82	Moisture	2.79
Oxide of iron	3.78	Total	100
Sulphuric acid	1.57		

Specific gravity is useful in detecting the admixture of slacked lime or iron slag meal, as when so treated the cement will not give the 0.03 specific weight, which is the standard of a freshly ground genuine Portland.

Slag cement has been for some time manufactured in Germany, and works have also been recently started in this country for its production.

Being a mechanical mixture of iron slag with slacked lime, it is very different in its constitution from Portland cement, which is a true chemical combination.

It is stated by its inventors to be fully equal in quality to Portland cement; this is, however, not admitted by the highest authorities. It is distinguished by its light specific gravity and by its color, which is of a mauve tint in powder, whilst the inside of the water pat when broken is deep indigo.

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* See also appendix.

Its presence, when mixed with Portland, may be detected as follows, viz: To a gill of water is added about 1½ drams (80 drops) of sulphuric acid. Into this 25 grains of the cement is dropped and quickly stirred, so as to prevent any setting, and then immediately, and whilst still stirring, Condy's fluid is allowed to fall in drop by drop until the red color remains permanent.

A good genuine cement will require only 10 to 15 drops of the fluid (certainly not more than 20), whilst an adulterated cement will take considerably more (say 30 to 60) and a cement made from slag only probably over 200 drops.

Mr. H. B. Yardley, analytical chemist, has also formulated the following as a simple test for the same purpose, viz, to place upon a clean silver coin a thin layer of the suspected cement, dropping thereon a small quantity of dilute sulphuric acid (1 acid to 7 water), and afterwards rinsing with water. If the cement is genuine, the thus treating with acid will only slightly affect the color of the silver; but, if slag is present in any notable proportion, a dark brown stain will be produced upon the coin.

In conclusion, he would remind engineers of the great difficulty there is (especially during hot weather) of properly cooling the cement at the factory, and that it is therefore most desirable that, whenever the nature of the work will allow, air slacking for 3 or 4 weeks should be made a condition of the specification.

The writer offers the foregoing as a result of many years' careful experience, an experience which leads to the conclusion that there is still very much to be learned as to the laws which govern Portland cement, more especially as they affect "time of setting" and "breaking strain."

Specification suggested for Portland cement.

Description.	Weight per bushel.	Tensile strain per square inch.		Fineness of grinding.
		7 days.	28 days.	
	Pounds.	*Pounds.*	*Pounds.*	
Engineering work	112	350	450	Under 10 per cent. residue, through 2,500-mesh sieve.
Special work	110	350	450	Under 10 per cent. residue, through 5,800-mesh sieve.
For sand test, 1 part of cement and 3 of standard (Leighton buzzard) sand, special work.	110	100	170	Under 10 per cent. residue, through 5,800-mesh sieve.

Comparative tests at 7 days' age of the same cement ex Wandsworth, July, 1886.

	Pounds.
A. Southam, esq	290
Hy. Faija, esq. (broken at the rate of 100 pounds per 15 seconds)	389
Gordon & Co.	466
Eastwood:	
Kent Road*	372
Grays*	510
Gibbs, Grays	525

As an example of loss of weight with age, an imperial bushel of cement which weighed, when 1 day old, 117 pounds weighed 1 month later 113 pounds; 2 months later, 108 pounds; and 12 months later, 103 pounds.

DIRECTIONS FOR TESTING THE TENSILE STRENGTH.

(1) In sampling a freight, several sacks or casks should be shot in a heap and well turned over together, the briquettes being made from this mixture. If samples are only taken from

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* Made up by the same gauger.

the mouths of the sacks or tops of the casks, there is danger of the cement having become dead, and therefore not fairly representing the bulk.

(2) Spread out the sample for a few hours before gauging, so that it may become thoroughly cool and air slacked. This is especially important in hot weather.

(3) Always weigh the cement, sand, and water before gauging, as a very slight excess of the necessary amount of sand or water will materially affect the result. Mr. Parkes says:

"There would sometimes be a difference of 100 or 150 per cent., without any apparent cause, in the breaking strain of two bricks made from the same sample; consistent results could only be obtained by adopting exact proportions of cement and water. In one experiment he used four-tenths of a pint of water for each test block, when the breaking weight in four cases was 970 pounds, 980 pounds, 1,000 pounds, and 980 pounds. After that he made up two more samples mixed with a half pint of water, instead of four-tenths of a pint, and these broke with 590 pounds and 370 pounds; two others, made up with nine-twentieths of a pint, broke with 750 pounds and 375 pounds."

Unfortunately, every sample will require a varying amount, according to the nature of its setting (quick or slow), fineness of grinding, and the state of the atmosphere; but, as a rule, from 18 to 28 per cent. will be sufficient where 1-inch molds are used.

(4) Carefully clean the molds with a slightly greasy cloth and place them on iron plates.

(5) Do not attempt to gauge too much cement at a time. If using 1-inch molds, weigh 6½ ounces of cement and 1¼ ounces of water to fill one mold, or 20 ounces of cement and 4 ounces of water, enough to fill three molds; if for 1½-inch molds, weigh 40 ounces of cement and 8½ ounces of water. Add the water little by little, working with a trowel until the mixture becomes a short, harsh paste; discontinue adding water, but continue working with the trowel for a few minutes, when the paste will become fat and smooth.[1] If only the proper quantity of water has been added, the sample will be stiff enough to stand with a straight edge, but if too much it will almost flow. In filling the molds, considerable care is required to get rid of the air in the cement and make the briquette solid. The whole operation of gauging and filling the molds should not occupy more than 4 to 5 minutes, and the quicker it is done, provided it is done properly, the better will be the result, for it is most important that the cement should be at rest before the setting action commences. The best form of molds are those which screw together, and when these are used the briquettes should not be taken out until 24 hours after gauging. This "taking out" requires great care to avoid flaws, especially when "press" or spring molds are used.

Atmospheric influence.—Heat and cold have both an important effect on the tensile strength of cement; therefore, care should be taken that during summer the atmosphere of the testing room is not so dry as to cause undue evaporation of the proper proportion of the water added in mixing the test bricks, and that in winter the temperature does not fall so low as to cause this proportion of water to freeze before a thorough combination takes place.

Temperature of water.—It is also necessary for obtaining correct results that the temperature of the water used for gauging should be as nearly as possible the same during all seasons of the year, viz, about 60° F.

CONCRETE-MIXING.

Good concrete can be made from clean gravel, river ballast, stone chippings, burnt clay, shingle, broken bricks, crushed flints, etc.; and the proportion generally adopted by engineers is 1 of cement to 8 of these or similar materials, technically termed the aggregate.

To insure satisfactory results, the following precautions should be taken:

(1) To have the cement shot into a dry shed a few days before using, so that it may be thoroughly cool and air slacked.

(2) To use clean water only.

(3) The cement and aggregate should be raked or turned over together twice dry, and this operation again repeated whilst the water necessary for hydration is being added. This should always be poured through a rose (an ordinary watering pot is as good a means as any),

as throwing on from buckets washes the cement away from the aggregate. Repeat the mixing once more and the concrete is ready, *i. e.*, it has been turned over four times—twice dry, once whilst being watered, and once afterwards.

(4) When the aggregate consists of crushed bricks or other porous material, it should be thoroughly wetted and time allowed for absorption previous to use, otherwise it will take away part of the water necessary to affect the setting of the cement.

(5) It is often desirable to add a proportion of sand to the aggregate to assist to fill up the corners. When this is done, care should be taken that the sand is sharp and clean—the coarser the better.

(6) Concrete should be used at once after mixing, as to remix or disturb when partially set destroys its setting property.

(7) When used for plastering over brickwork, this should be first well wetted.

(8) Slow-setting cement gives, eventually, the strongest concrete.

The proportion of 8 and 1 is named as that usually specified, but with good, tested cement a larger proportion of aggregate may be added.

These hints will be found useful in preventing the misuse of cement, but the writer would recommend all who are interested to know what cement can do for engineering works to read "Grant on the Strength of Cement;" or, for more general purposes, "Portland Cement for Users," H. Faija, C. E.; and "Concrete: Its Use in Building," by Thomas Potter.

[Appendix.]

SIX YEARS' EXPERIENCE OF CHEMICAL ANALYSIS IN RELATION TO QUALITY IN THE MANUFACTURE OF PORTLAND CEMENT.

Chemical analysis demonstrates whether a cement contains only its due percentage of lime, and also, by the percentage remaining of carbonic acid, whether this lime has been properly combined during the process of burning with the silica and alumina.

This is most important to engineers and contractors, as the true cause of failure in concrete work may in nearly all cases be traced either to the use of an excessive proportion of lime in the original mixture or to some of the lime being present after burning in the free, *i. e.*, not chemically combined, state. This is indicated at once by the percentage of carbonic acid, which should in no case exceed 1.5 per cent.

Table showing the yearly averages of the composition of cement.

Composition.	1882.	1883.	1884.	1885.	1886.	1887.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Carbonic anhydride	0.39	0.71	0.6	1.14	1.04	1
Sulphuric anhydride	1.67	1.07	1.4	1.81	1.85	1.65
Insoluble silica	1.77	3.53	1.06	1.88	1.57	1.17
Soluble silica	20.9	19.31	22.52	23.24	22.7	23.63
Alumina and ferric oxide	12.68	13.37	9.6	10.82	11.34	10.87
Lime	61.31	59.09	61.16	59.68	59.17	59.47
Alkalies, water, etc.*	1.26	2.92	3.63	1.33	1.97	2.21
Total	99.98	99.8	99.97	99.9	99.64	100

*A separate determination of magnesia was not made until the year 1886–'87, when the highest percentage present was found to be 0.79 per cent. and the lowest 0.46 per cent., giving a mean of 0.62 per cent.

In publishing the above yearly averages of the composition of cement the manufacturers need only add that it is with cement of this quality that the following important works have been supplied, without one single case of failure:

	Tons.
East London harbor (under Sir J. Coode)	5,000
Metropolitan board of works (under John Grant, esq.)	6,000
Liverpool docks (under G. F. Lyster, esq.)	50,000
Newhaven harbor (under F. Banister, esq.)	10,000
Quebec and Esquimault dock (under Messrs. Kinipple & Morris)	5,000
The Tay bridge (under Messrs. Barlow & Son)	10,000
Barrow docks (under F. C. Stileman, esq.)	7,000
Dublin port and harbor board (under B. B. Stoney, esq.)	5,000
Dublin corporation works (under Parke Neville, esq.)	1,000
Cork harbor board (under P. Barry, esq.)	2,500
Alexandra docks, Hull (under James Abernethy, esq.)	4,000
Victoria dock, London (under Sir A. M. Rendel)	4,000
East & West India dock, Tilbury (under Messrs. Manning & Baynes)	5,000

Table showing the average tensile strength of Gibbs & Co.'s Portland cement on 1½-by-1½-inch section, representing the breaking of 5,000 briquettes.

Date.	1882.		1883.		1884.	
	7 days.	28 days.	7 days.	28 days.	7 days.	28 days.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
January 1	1,020	1,325	930	1,110	1,012	1,230
January 15	995	1,275	900	1,130	980	1,140
February 1	990	1,235	1,000	1,290	1,030	1,230
February 15	915	1,155	1,045	1,345	885	1,100
March 1	980	1,235	1,060	1,320	1,025	1,270
March 15	1,055	1,350	985	1,320	1,010	1,280
April 1	1,050	1,185	970	1,070	900	1,225
April 15	1,000	1,230	1,130	1,260	957	1,195
May 1	965	1,275	1,025	1,205	937	1,200
May 15	1,002	1,280	950	1,255	950	1,230
June 1	1,010	1,255	1,020	1,120	1,050	1,130
June 15	947	1,200	[illegible]	1,245	960	1,210
July 1	975	1,080	900	1,140	950	1,150
July 15	960	1,270	945	1,140	967	1,170
August 1	937	1,235	1,040	1,190	880	1,030
August 15	1,065	1,310	1,100	1,260	950	1,070
September 1	970	1,385	955	1,090	965	1,290
September 15	1,005	1,410	985	1,180	965	1,115
October 1	1,140	1,295	935	1,110	975	1,145
October 15	1,140	1,265	925	1,080	1,040	1,320
November 1	1,050	1,260	1,100	1,330	1,185	1,400
November 15	970	1,105	1,000	1,130	1,080	1,220
December 1	1,050	1,350	970	1,290	1,030	1,325
December 15	965	1,100	1,185	1,340	1,035	1,205
Average	1,006	1,252	1,043	1,206	988	1,202

Table showing the average tensile strength of Gibbs & Co.'s Portland cement, etc.—Continued.

Date.	1885.		1886.		1887.	
	7 days.	28 days.	7 days.	28 days.	7 days.	28 days.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
January 1	940	1,275	950	1,270	955	1,110
January 15	945	1,180	965	1,215	1,015	1,200
February 1	1,015	1,325	1,035	1,310	1,035	1,310
February 15	1,000	1,130	1,060	1,260	1,040	1,235
March 1	1,017	1,300	935	1,290	910	1,120
March 15	1,045	1,160	930	1,165	1,020	1,140
April 1	957	1,250	1,060	1,195	1,135	1,300
April 15	940	1,220	1,035	1,225	980	1,210
May 1	1,160	1,380	975	1,215	985	1,205
May 15	1,072	1,320	975	1,270	1,035	1,335
June 1	1,170	1,400	1,050	1,210	990	1,295
June 15	1,175	1,320	985	1,190	985	1,200
July 1	945	1,210	1,000	1,145	970	1,200
July 15	1,092	1,310	997	1,335	850	1,120
August 1	1,027	1,380	1,060	1,430	970	1,215
August 15	935	1,350	965	1,215	1,120	1,305
September 1	1,050	1,270	970	1,190	885	1,190
September 15	935	1,225	1,012	1,200	875	1,235
October 1	950	1,220	1,025	1,300	1,050	1,290
October 15	1,065	1,200	1,020	1,310	1,037	1,350
November 1	980	1,210	1,120	1,360	1,050	1,280
November 15	925	1,105	965	1,275	1,100	1,440
December 1	1,110	1,335	1,115	1,370	1,045	1,310
December 15	1,060	1,320	1,025	1,300	1,070	1,340
Average	1,021	1,266	1,009	1,260	1,005	1,247

These results were obtained by a skilled workman, whose sole occupation is to gauge cement, and were broken without any time condition.

With a time specification of 15 seconds per 100 pounds or under ordinary circumstances of outside testing, the results would have probably been about 25 per cent. lower, viz, 7 days' average, 750 pounds; 28 days' average, 950 pounds.

The foregoing facts lead to the practical conclusion that the following are the only necessary characteristics for thoroughly sound cement:

Moderate tensile strain of 350 pounds per square inch at 7 days, 450 pounds at 28 days, when broken without "time-in-breaking" conditions.

Fineness in grinding. The finer the better, for in no engineering work should the residuum, after sifting through a sieve of 2,500 meshes to the square inch, exceed 10 per cent.

Freedom from excess of lime in chemical composition. This should not exceed 62 per cent. nor be less than 56 per cent.

Minimum percentage of magnesia not over 1 per cent., sulphuric acid not over 2 per cent., and carbonic acid not over 1.5 per cent.

Good specific gravity of 0.03 specific weight.

Pats, when gauged up and put into water, after having become thoroughly set and hard, should not show any signs of cracks or undue expansion.

WILLOW-WARE MANUFACTURE IN GERMANY.

REPORT BY VICE-CONSUL FLORSCHULTZ, OF SONNEBERG.

Thuringia and Bavaria are the countries in which the above-named manufacture has its principal seat. In Thuringia, Coburg is the center; in Bavaria, Lichtenfels. Both places belong to the consular district of Sonneberg, from which the products of this manufacture are exported, finding a good ready sale all over Germany, Austria, Switzerland, France, Italy, Spain, Portugal, Belgium, Holland, Denmark, England, and the United States.

The principal raw material for the product of this manufacture is the willow, found in all moderate climes, and whose culture nature provides for without needing any particular care.

Besides the willow, an important raw material is the Indian or so-called Spanish reed, imported from India by way of Hamburg and Netherlands ports, mostly coming as ballast. This reed is washed and bleached after being assorted, peeled, split, the kernel called here "bottichrohr" being thrown out, which latter is worked in the raw and tinged state, the former being the most valuable material for basket-makers next to the willow.

Palm leaf and esparto are also used; the former, imported from Cuba, is mostly used to manufacture baskets and trunks for traveling purposes.

Another esparto, a flaxlike straw, comes from Spain. Of less importance are some other materials, a kind of esparto made of thin wood fibers in Bohemia, China mats, straw braids from Italy and the Black Forest, hemp texture, leather trimmings, and other ornaments.

The most important raw material for the basket-maker remains, however, the willow, whose pliant twigs suit as well for the coarsest articles, as also, after being split in threads, bleached or colored, to produce the most select and delicate articles of braiding work.

The willow, or osier, which still grows on the banks of the Main and its affluents, the Rodach, Steinach, Kronach, in a sandy gravel and moist ground, did not furnish sufficient material to the manufacturers; therefore, from France, Belgium, and other countries was imported what was requisite and what might have been found here if the culture of the willow had been sufficiently fostered.

Since 1870 a change has taken place: people have learned to drain the ground and choose the proper locality for the culture of the willow. Notwithstanding the advantages resulting from such improved culture, very little progress has been made; consequently, the importation of foreign willows is very considerable. During the years 1881–'85 it amounted to 13,770, 14,005, 12,925, 13,395, and 12,291 metric quintals, respectively, of which 2,170 2,400, 1,809, 1,027, and 769 metric quintals, respectively, came from France and 1,120, 1,100, 966, 1,368, and 1,122 metric quintals, respectively, from Austria, while the principal imports came from other parts of Germany, especially from Prussia. As before mentioned, the principal places of exportation are Lichtenfels and Coburg. It is almost too difficult to enumerate the articles produced. Baskets of all kinds and sizes are made for all possible purposes—for washing, packing, carrying, and traveling purposes, for ladies' work, baskets to be filled with flowers and sweetmeats. Worktables, newspaper and music stands, baby and doll carriages, stools, chairs, tables, and a number of fancy articles are produced, and all of these articles find a ready sale in the before-named countries, furnishing a source of profit to the houses in Lichtenfels and Coburg who export them and the means of living to the inhabitants all around, clustering in cities and villages in the before-named district. There are no manufacturing establishments, except one or two where the work of braiding is done; the manufacture is a house industry. Everybody lends a hand—the father, the mother, the children—all are busy doing this work, thus finding a source of employment for every leisure hour presenting itself. All of these people have a piece of land, which they cultivate, and occupy themselves, if not busy on their land, with making basketwork. Once or twice a week they carry the objects completed to the exporting houses in Lichtenfels and Coburg, receiving ready cash for them, carrying home, in most instances, the raw material which they need to renew their work.

The approximate amount of basket ware exported from the two before-mentioned principal districts is estimated at about $1,000,000 a year.

The export to the United States from the consular district of Sonneberg, including Lichtenfels and Coburg, shows the following figures:

Quarter ended March 31, 1890	$25,143.70
Quarter ended June 30, 1890	65,867.56
Quarter ended September 30, 1890	88,476.33
Quarter ended December 31, 1890	64,572.06
Total	244,059.65

ALVIN FLORSCHULTZ,
Vice and Deputy Consul.

UNITED STATES CONSULATE,
Sonneberg, February 16, 1891.

DECLINE OF THE IRISH FLAX INDUSTRY.

REPORT BY COMMERCIAL AGENT SMYTH, OF HUDDERSFIELD.

A steady decline in the flax industry of Ireland is noted, notwithstanding the repeated efforts of late years to revive it. Strange as it may seem, however, Belfast still maintains its prominence in the linen trade, while for years the native sources from which it was accustomed to draw its supplies of fiber have been contracting and growing less, so that to-day we find its manufacturers importing from the Continent millions of pounds' worth annually. It is not within the province of this report to discuss the economic causes which have produced such a serious revolution in the commerce of the country, for such a discussion would only lead to the consideration of systems and questions which may not properly come under consular review. While Belfast to-day exports its linen products to all countries of the globe, the material benefits of its trade have a local application only, instead of being felt throughout every section of the country where a pound of flax can be raised. This is the result of those singular conditions which have been forced upon the people by direct legislation, and which have gradually destroyed all the native industries and driven their natural products off the face of the land. It has been ascertained by Professor Sullivan, of Cork, that the soil and climate of Ireland can not be excelled for the production of flax, and yet Belgium, Russia, and Holland supply millions' worth of the fiber every year to the linen manufacturers of Belfast. It is said on good authority that, were the internal affairs of the country properly managed and this important industry properly encouraged and supported, the Irish flax-producers would soon be able to drive their foreign competitors out of the market and turn to their account every year from $50,000,000 to $75,000,000. It would also enable them to export a large quantity of flax of a superior grade.

In an interesting article on this subject Professor Sullivan writes:

> I have examined all the soils of Europe and of nineteen American States; none of all these possesses the properties for the production of fiber equal to the soil of Ireland.

A writer in one of the magazines for March takes up the subject and locates the cause of failure among the farmers themselves, charging their methods with the greatest part of it. It must be remembered that these very causes are in themselves but the effects of other causes which invoke conditions and circumstances which are, unfortunately, a part of the political management of the country. The poor farmer is always found between forces, which, operating like millstones, have ground the very life out of him, until there is very little of either him or his name left in the country. He gets none of that encouragement of material aid that might enable him to elevate either himself or his methods in the struggle against superior powers and superior advantages. Hence, he is left to toil and spin in vain, while the Dutch and the Belgians and the far-off Russians step in with their products and carry off the money that should flow into his pockets to improve his lot, enrich his country, or brighten his own home.

It is contended in this magazine article that the failure of the Irish flax in the native market can be explained only by the defective way in which the crop is cultivated. The writer says:

> In Ireland the farmers produce the crop and prepare it for the cloth manufacturer. In Belgium, in Holland, and in Russia, on the other hand, the farmer concerns himself solely with the cultivation of the crop. The preparation of the fiber is in the hands of persons specially skilled and trained in the work. The continuance, in Ireland, of the old system is known to entail much loss and waste, while it is seemingly on account of the greater efficiency and higher quality arising from the division of labor that the Belfast manufacturers so frequently prefer the foreign to the home-grown article. After the farmer has sown the seed

and gathered the crop, several processes remain before the flax can be used in the cloth mills. The most important are technically known as "steeping" and "scutching." By steeping is generally meant sinking the straw in deep water. Different methods of steeping prevail in different countries, according to local circumstances. In Holland stones are scarce, so the flax has to be laid on the surface of the water and then covered with mud raked up from the bottom of the water. The finest flax in the world comes from Courtrai, in Belgium, where the fiber is steeped in the River Lys, whose velocity is only at the rate of 3 miles an hour. The straw is sunk packed in crates, and for many miles both banks of the river are used as steeping grounds. In Russia, on the other hand, the flax is merely spread upon the ground, and the rain is left to do the steeping. On Irish flax farms the straw is thrown into pits or wells with the seed still on it, the farmers not having learned the continental trick of saving the seed and yet getting good fiber. Much expense is consequently incurred in obtaining seed from abroad. On the Continent, too, the method of "scutching" is widely different, the yield of fiber being usually wider and better. So general is the necessary technical knowledge that in the scutching mills the labor is mostly that of girls and lads from 17 to 20 years old, instead of men, as in Ireland, earning 30*s.* a week. Both the cheapness and the efficiency of the labor is said to be due to the separation of the functions of the producer from what are really those of the manufacturer.

There are two methods by which this is acccomplished: the farmer may buy the seed and sow it on his land in order to sell it to the factor, who will prepare the flax for the market; the factor, on the other hand, may himself provide the seeds and hire the land from the farmer, whose remuneration for preparing the land, sowing the seed, etc., will be included in the rent. It is to the adoption of one or the other of these plans that some people in Ireland are looking for a revival of what should be one of its most important industries. At the present time the crop is only cultivated to any extent in seven out of the thirty-two counties, the production of flax in all the southern counties being quite insignificant. The average crop of the seven counties is worth £800,000 per annum; so that, if the other twenty-five counties were producers in the same proportion, Ireland's flax industry—regardless of the seed that should be saved under an improved system, which would in itself represent a considerable sum—could be made to realize an income of between £3,000,000 and £4,000,000 yearly. As a matter of fact, the experts are of opinion that with its well-watered valleys the south of Ireland is even better adapted to the production of flax than the north. Before the farmers of the south can supply Belfast market with fiber equal to that which is now imported from across the seas, there must, it is thought, be some intermediate agency by which the preparatory processes could be undertaken. Some 2 years ago a Belfast manufacturer made a very successful experiment with flax-growing in the south on the continental system. He rented 60 acres of land near Cork, which he had prepared for a flax crop; last season the land yielded 80 stones of fiber of the value of 10*s.* per stone and seed to the value of £6 per acre, the profit being over 300 per cent. This is probably an exceptionally favorable result, but it certainly shows that under proper conditions the productions of flax in the southern part of the island can be made to yield wealth beyond the Irish farmers' dreams of avarice.

It is proposed to give the continental system a trial in Tipperary. Mr. Dickson, a member of Parliament, has guarantied a fund to start it with 100 acres. Its success would undoubtedly lead to the revival of a very important industry for the Irish people.

WILLIAM P. SMYTH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Huddersfield, March 6, 1891.

TELEGRAPHS OF NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

The year 1862 saw the dawn of the telegraph system in the Republic of Nicaragua. The first line was constructed by the Transit Company between the ports of San Juan del Sur, on the Pacific coast, and Virgin Bay, on Lake Nicaragua, and was 15 miles in length. The line was afterwards abandoned by the Transit Company, and, so far as is known, nothing was done toward the system until the year 1876. In this year the Nicaraguan Government employed a Costa Rican to commence the construction of a national line. During this year 190 miles of telegraph were erected and offices opened for the transaction of business in the principal cities.

The line during the year 1879 was extended to Jinotepe, a distance of 12 miles, and communication established between Somotillo and Choluteca. On the 24th of June, 1880, the port of San Juan del Sul was connected with Liberia, Costa Rica, uniting the lines on the frontiers of the two Republics.

The line was reorganized in the latter part of the year 1880. An extension was made into the gold-mining district of Chontales. The frontiers of Nicaragua and Honduras were united in 1882 by the construction of a line between Ocotal and Paraiso.

It being found that the business of the country could not be properly transacted by the line then in operation, the Government erected a second line between Granada, Masaya, and Leon, these being the principal business centers of the Republic. During the year 1882 an office was opened at San Juan del Sur by the Submarine Cable Company. The year 1886 witnessed the introduction of the telephone system between Acoyapa and San Obaldo, the length of the line being 15 miles. As the country was steadily growing in population and commerce, it became necessary to extend the telegraph system, and in 1887 the line was extended to Managua, Masaya, and Granada, a distance of 33 miles. Another line was added in 1888 between Mometombo and Leon. The total number of miles of telegraph lines erected during the year 1889 was 334; telephone lines built for same period were 56 miles.

Since 1888 250 miles have been built at a cost of $38,434.80. The line has also been prolonged from San Carlos, at the junction of Lake Nicaragua and the San Juan River, to Castillo, on the same river, a distance of 45 miles. This extension was made necessary on account of the location of a customhouse at the latter point. Here the national line joins that of the Canal Construction Company, which extends to San Juan del Norte, on the Atlantic coast, a distance of 95 miles, and has seven offices on the route.

In the 26 months ended October, 1888, there were transmitted 197,640 messages received from the public at a charge of $57,671.95 and Government messages to the number of 106,083. For the last 21 months to July there were sent on account of the public 215,413 messages at a charge of $63,773.30 and Government messages to the number of 190,034 at a charge of $70,074.80.

The transmission of cablegrams at San Juan del Sur was greater than in the preceding 26 months; the excess is 15 per cent. in relation to those transmitted. There were transmitted in the 26 months anterior 5,224 messages; received, 5,619. There were transmitted in the last 21 months 5,452 messages; received, 5,585.

The total expenses of the telegraph department in salaries, works, construction of new lines, material, etc., was $143,578.07.

In all the Republic there are 1,549 miles of telegraph and 61 miles of telephonic communication. The value of the system is $150,000.

The telegraph staff consists of 1 director-general, 6 section bosses, 96 operators, 74 messengers, and 42 guards of the line. There has been recently established in Managua a national school of telegraphy, which is giving good results in training young men for the service.

If the telegraph system of the country were in the hands of private parties and the Government had to pay for its messages, the profits would range from $2,000 to $3,000 per month; but the yearly deficit is not to be taken into consideration when compared with the benefits bestowed upon the public.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, February 5, 1891.

CADIZ-AMERICAN TRADE.

REPORT BY CONSUL TURNER.

During the year 1890 forty-three vessels cleared from this consular district for, and fifty entered from, the United States. Twelve were American bottoms, of which number eight sailed to the United States and the others for foreign ports. Ten of the forty-three to clear were steamers, nine of which loaded with ore at Huelva for Philadelphia; the tenth was the first vessel of the newly established line of I. H. Andresen & Co. between Cadiz and New York and carried general cargo, calling at Lisbon and the Azores It sailed December 25, 1890. The second vessel of this line, the *Oevenum*, sailed to-day. These steamers carry first, second, and third class passengers, and alternate with the Empresa Insular de Navegacion de Lisboa, another newly established line, which has equally good accommodations, and the first steamer of which, the *Vega*, cleared from here for New York on January 12, 1891, and the second of which is to sail March 10. Each did well, the last to sail, the *Oevenum*, taking from here 150 tons of cargo.

It has been quite impossible to secure data from Seville as to navigation, but the following report from San Lucar de Barrameda, the port at the entrance of the Guadalquivir River, will give a very clear idea of Seville shipping:

The number of vessels of all nations that visited San Lucar de Barrameda during 1890 was 501, with an aggregate tonnage of 168,271, as follows:

Flag.	Number.	Tonnage.
Spanish	248	67,668
British	98	46,185
Russian	52	10,481
German	24	10,512
Italian	25	11,702
Norwegian	34	9,805
Swedish	18	5,186
United States	6	2,888
French	6	749
Portuguese	4	594
Danish	3	1,743
Dutch	3	958

Of these all but twelve vessels, with a tonnage of 3,352, sailed up the river to Seville.

It will be seen by the inclosed return of trade that the direct imports from the United States to this consular district for the year reached $2,028,165.03, and that the exports from here to the United States amounted to $1,570,364.11 United States gold. The imports show an approximate increase of $200,000. I say approximate, because, for 1889, the agent at Seville could not secure the amount or value of the goods imported by that port from the United States. The exports to the United States have increased during 1890 $41,686.67.

I might add that the value of the American goods bought by this district is much in excess of $2,028,165.03. This sum represents the direct trade only. Intermediate countries are credited in the Spanish custom-house reports with the indirect trade. For instance, stationery supplies, flags, etc., sent to this consulate from the Department come by way of England and are entered in the custom-house as being imported from there, instead of from the United States. I think a fair approximation of this indirect trade, which consists of meats, breadstuffs, medicines, machinery, notions, etc., would be $500,000. The aggregate trade, then, of this consular district with the United States for 1890 would be $3,648,529.14.

I am quite confident that the two lines of steamers before mentioned, if properly supported by importers and exporters here and in the United States, will do much to increase trade during the coming years.

English and German houses dispose of large amounts of American goods in Spain that United States merchants should sell direct to the Spanish importers. Every day representatives of French, English, and German houses can be seen soliciting orders of Cadiz dealers, but, so far as I know, there has never been a representative of an American firm in Cadiz for the purpose of developing trade by soliciting orders. While there can be no doubt that American goods can easily overcome all competition in this market, it is equally clear that they must first be introduced by men thoroughly equipped for their task.

For the class of American goods that, in my opinion, would meet a ready sale here interested parties are referred to former reports. For the sake of emphasis, however, I will again mention agricultural implements, furniture, and all other kinds of house-furnishing goods.

Table showing the imports and exports between Cadiz consular district and the United States for the year 1890.

Articles.	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
Antiquities				$154.01
Brandy ... litres			5,147	2,120.83
Canary seed ... sacks			275	1,399.05
Cork ... packages			13,966	323,694.58
Sawdust ... do			2,273	2,992.46
Cupreous sulphur ore ... kilogrammes			17,540,205	102,416.35
Fining earth ... litres			2,081	109.26
Hams ... kilogrammes			155	136.53
Lead ... packages			11,228	34,888.80
Licorice:				
Paste ... cases			593	19,312.35
Root ... bales			11,216	34,837.79
Olives ... packages			4,086	228,974.14
Olive oil ... cases			35	314.19
Paintings				507.01
Petroleum ... kilogrammes	3,872,024	$939,487.01		
Raisins ... do			17	15.57
Salt ... lasts			137½	732.62
Soap ... boxes			535	8,475.40
Staves ... pieces	3,193,327	593,552.35		
Sundries				6,596.16
Tobacco (leaf) ... kilogrammes	1,943,479	468,864.16		
Wine:				
Sherry ... litres			214,145,554	790,403.88
Light ... do			306	147.06
Moguer ... packages			1,024	10,375.10
Red ... litres			5.857	722.10
Port ... do			2,933	897.07
Spirit of ... do			316	141.80
Pitch-pine timber ... loads	3,839	26,261.51		
Total		2,028,165.03		1,570,364.11

RECAPITULATION.

Places.	Imports.	Exports.
Cadiz	$1,062,075.52	$75,190.69
Consular agencies:		
Jerez de la Frontera		487,857.11
Seville	929,822.00	672,331.13
Port St. Mary's		232,421.87
Huelva	26,267.51	102,563.31
Total	2,028,165.03	1,570,364.11

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, February 28, 1891.

TRADE AND INDUSTRIES OF THE BAHAMAS.

REPORT BY CONSUL McLAIN, OF NASSAU.

GENERAL COMMERCE.

The trade of the Bahamas has been quite prosperous during 1890, its volume exceeding that of any previous year for a long period, as is apparent from the following statement of exports and imports:

1887	$1,568,646
1888	1,521,832
1889	1,489,285
1890	1,900,966

The increase for 1890 over 1889 is very decided, both in imports and exports, the former having increased by $228,701 and the latter by $182,980. There has also been a gratifying increase in the revenue of the colony from duties on imports and from other sources.

TRADE WITH THE UNITED STATES.

As we are specially interested in the commercial relations of the Bahamas with our own country, I submit the following table, covering a period of 5 years, to show the past and present condition of the same, which reveals a comfortable state of affairs for the United States:

Year.	Imports.	Exports.	Total.
1886	$568,093	$605,511	$1,173,604
1887	670,016	547,860	1,217,876
1888	582,250	493,233	1,075,483
1889	605,475	528,882	1,134,357
1890	787,798	684,779	1,472,577

This condition of trade is most gratifying, showing that, while the total increase of general commerce was $411,681, of this amount $338,220 was obtained by the United States, or over 80 per cent. There was an increase in corn meal and hominy of $5,000; flour, $43,000; lumber and shingles, $13,000; fertilizers, $6,000; potatoes and vegetables, $2,000; and spices, $30,000. A large number of articles, such as woolens, cottons, silks, hardware, earthenware, boots, shoes, etc., pay an ad valorem duty of 20 per cent. (known as 20 per cent. goods), and the importation of these amounted to $332,000 in 1890, as against $231,000 in 1889, a peculiarly gratifying increase, since they are nearly all manufactured goods which are rapidly supplanting similar articles of British production.

This is a British colony politically, but commercially it has become a dependency of the United States. The reasons have been often stated in my reports, but will bear repetition as indications how other trade conquests may be made by our exporters and manufacturers. We control the trade of the Bahamas because: (1) We furnish goods equal in quality with better style and finish than the English; (2) they can be laid down here, time and freight being considered, as cheaply as English goods; (3) we have prompt and reliable steam communcation direct with New York under our own flag; (4) but not least, the fact that some enterprising American firms have studied the wants of these people and have devoted time and money to building up what is now a profitable, prosperous, and growing trade. The foregoing facts show how it has been done in the Bahamas. A word to the wise is, or ought to be, sufficient.

GENERAL INDUSTRIES.

Agriculture.—Field and garden crops, never very prosperous here, have fallen below the average in 1890, the principal cause being drought during the planting and growing season. In some of the islands, indeed, a moderate degree of destitution prevailed, calling for public assistance and relief, which the Government promptly furnished. This shortage in local crops accounts, in part, for the increase in the importation of hominy and flour, the quantity imported in 1890 from the United States, which furnishes nearly all the breadstuffs for the colony, being 48,000 barrels, against 37,000 in 1889, when crops were better. The culture of hemp has been added of late to the agriculture of the islands, concerning which I will speak further on.

Barks and woods.—The trade in these articles is unsteady, varying much in different years. The shipments in 1890 were of average value, reaching $26,000. There was a decrease in dye and cabinet woods, but an increase of 150 per cent. in cascarilla, cinnamon, and dogwood barks. These articles go now mostly to the United States.

Fruits.—The orange orchards are making but slow recovery from the ravages of the scale insect some years ago, and but few new ones are as yet bearing. The crop of 1890, however, was much better than that of 1889, 3,246,000, worth $19,286, being shipped, against 2,316,000, worth $14,800, the preceding year. About $5 per thousand is the ruling price obtained in the colony.

The pineapple crop of 1890 was abundant, was well handled, and realized good prices. The number shipped was 476,000 dozen, worth $242,000, against 283,000 dozen, worth $124,000, in 1889. Fertilizers were used largely during the last year, from which old and failing plantations derived signal benefits. For years planters have derided the idea of using manures on their fields, preferring to abandon them and seek fresh soil; but all this is now altered, and hereafter a good market will be opened for American fertilizers. Previous to 1889 little was imported, but during that year 950 barrels were bought, costing $5,000. In 1890 nearly 2,000 barrels were imported, costing $11,000, all coming from the United States. By a judicious use of fertilizers the old fields are made as good as new, the fruit is larger and better, and outlay is decreased perceptibly.

Sponges.—The sponge industry is still the most valuable one in the colony, giving steady employment to 500 or 600 vessels of small size and to one-eighth of the entire population of the islands. The crop for 1890 was by far the largest and most valuable one shipped for years, reaching 915,000 pounds, worth $306,896. In 1889 the crop was worth $252,000; in 1888, $240,000; in 1887, $230,000; in 1886, $216,000; in 1885, $207,000; in 1884, $224,000. The crop of 1890 was shipped as follows: To the United States, 708,000 pounds, worth $236,000; Great Britain, 107,000 pounds, worth $40,000; France, 50,000 pounds, worth $16,000; Germany and Holland, 50,000 pounds, worth $15,000.

The United States now substantially monopolizes the sponge trade of the Bahamas. Ever since 1884 the trade has been slowly but steadily drifting to our country, in which year $120,000 worth went to England and $104,000 worth went to the United States. The Bahama sponges are not of the finest quality, but all that can be obtained find a brisk market at good and increasing prices. I do not perceive any indications of a failure of the sponging grounds to yield an abundant supply.

Salt.—This industry continues in a state of serious depression, although 1890 shows a moderate improvement over 1889. The hopes of salt manufacturers were temporarily raised by expectations that under the new McKinley tariff bill the duty on salt of 6 cents per bushel might be removed and a market thus created in the United States, but they were disappointed and have again lost all heart in the business. The amount of salt shipped in 1890 was 190,000 bushels; in 1889, 80,000 bushels; in 1888, 222,000 bushels; in 1887, 137,000 bushels; in 1884, 382,000 bushels. Most of the salt shipped is taken by vessels for a return cargo to the United States solely in preference to going in ballast, hoping thus to make their freight. The salt is of the best quality, but depends on the United States for a market, which it can not get.

WRECKS AND CASUALTIES.

The number of disasters to American vessels in these waters during 1890, I am happy to state, is far below the average. Four put into this port in distress, made repairs, and proceeded upon their voyage. Only 2 vessels were lost in 1890, against 6 in 1889, 4 in 1888, 8 in 1887, and 5 in 1886. These 2 were the schooner *Ethel*, of Jacksonville, foundered at sea on April 5, and the schooner *Minnie E. Booth*, of Baltimore, stranded at Harbor Island on April 30. The latter was in ballast. No lives were lost. Both crews were cared for at this consulate.

NAVIGATION.

There has been no marked change in the carrying trade of the Bahamas during 1890, American ships maintaining their proportion of the same. There were 72 arrivals of American steamships during the year of 92,000 tons and 134 arrivals of American sailing vessels of 15,640 tons. The greater part of the trade is done in American bottoms. There is no direct line of either steam or sailing vessels to any port in Great Britain. During the year a local company was organized under the style of the New York and Nassau Steamship Company (limited), and operations were begun by chartering a small Norwegian freight steamer, called the *Viking*, which for 6 or 8 months has been making monthly trips, carrying mails and freight, but no passengers. No subsidy is paid to this company. The service is between New York and Nassau. The enterprise is still in the experimental state and may or may not prove to be paying and permanent.

The regular mail, passenger, and freight business between Nassau and New York was, during the year, as for many years past, performed by an American line, the New York and Cuba Steamship Company, James E. Ward & Co., agents, and R. W. Parsons, esq., mail contractor. The ships are excellent, the service good. The colony pays this company an annual subsidy of about $18,000.

INTERINSULAR STEAM COMMUNICATION.

Heretofore the islands of this group have depended for mail facilities and freight and passenger intercourse between themselves entirely upon small sailing vessels, a service tedious, uncertain, and unsatisfactory in all respects. Steam communication has long been desired, but was unobtainable until a few months ago, when a contract was entered into with Messrs. Pickford & Black, of Halifax, for a mail and general fortnightly steam service between Nassau and the principal ports in the outer islands. This contract is for 7 years at an annual subsidy of $12,000, of which $7,000 will be paid from Crown funds. The balance of $5,000, which the colony will have to pay, is not much in excess of the cost of its present unsatisfactory system. The new service is to begin in June, 1891, and will unquestionably promote the social and commercial welfare of the colony to a large extent. An American steamship company made estimates for the service, but could not regard it as profitable at the above contract figures.

CABLE COMMUNICATION.

One of the greatest needs of this colony is cable connection with the outside world, its isolated condition being in many ways detrimental to its interests. Many efforts have been made in the past to accomplish this end, but they have all failed for one reason or another. There is now a reasonable prospect that a cable will shortly be laid. During a visit to Canada last summer Sir Ambrose Shea, the governor of the Bahamas, induced certain capitalists to look carefully into the project of laying a cable from Nassau to the Florida coast at Jupiter Inlet. In his speech on February 24, 1891, to the legislature, the governor, speaking on this subject, said:

> I am in correspondence on the subject of telegraph cable communication between Nassau and Florida, and I trust at an early date to submit a definite proposal for your consideration.

As it is understood that the terms will in all probability be quite within the ability of the colony to meet, and as members of the legislature are known to be greatly in favor of a cable, there are good grounds for anticipating a favorable issue to the present effort for a cable line.

THE HEMP INDUSTRY.

My report in full upon the sisal industry of these islands and its then condition, submitted a year ago, created considerable interest abroad and induced innumerable inquiries at the consulate upon the subject. It seems to have been republished in England and to have obtained a wide circulation in all the British colonies. I am happy to state that during 1890 this industry has made a steady advance, no unfavorable features having been developed. Those who a year ago were already embarked in the industry are still promoting the same to the best of their ability, whilst some additional foreign capital has flowed into the colony. The latest investment is that of the Hon. Joseph Chamberlain, the well-known British member of Parliament, who has purchased substantially the whole of the island of Mariguana, which is about 25 miles long by a varying breadth of from 2 to 6 miles. The island is low and somewhat wooded, with a good soil for agriculture, with a population of about 300 souls. Mr. Chamberlain's two sons visited the colony, investigated the matter in person, and one of them will become the resident proprietor and manager of the enterprise, which will be developed with the utmost vigor.

One serious drawback up to this time has been the impossibility of procuring enough plants. As much land has been cultivated as plants could be found for, but their scarcity has seriously interfered with the more rapid development of the business. So anxious were people for plants that many crossed over to the Florida coast and within a few months brought away over 140,000 first-class sisal plants, which are to-day growing in Bahama soil. I may, in this connection, express the hope that my suggestion of a year ago, that the Department of Agriculture should call the special attention of the people of Florida to this possible source of wealth to themselves, has been acted upon, and that an investigation has been made in the premises.

The present prospect for plants is good, there being on January 1, 1891, a guarantied crop within the next 6 months of 1,000,000 pole, and the same number of root, plants. A report just submitted also shows that about 4,000,000 plants had been regularly planted out and are in a fine, healthy condition.

It has been apprehended that, if there was no limit to the quantity of Crown lands sold to be planted, there might be an overproduction of fiber enough to glut or depress the market badly. Indeed, the proposal made a year since by some London capitalists to take 200,000 acres was declined by the colonial authorities; and it has lately been stated on good authority that the governor has decided, for the present at least, to limit the total acreage to be sold to a trifle over 100,000 acres, which quantity can not affect the market or the labor question prejudicially. This is undoubtedly a wise decision; but it is only what was to have been expected at the hands of so careful and practical a man as Sir Ambrose Shea, by whom the entire undertaking has from the very beginning been managed with such discretion and skill as to impart unlimited confidence to the minds of all who have invested their capital in the enterprise.

American capital still remains unemployed in the Bahamas, probably because it is largely needed at home; but shrewd, calculating Scotch, English, and Canadian capitalists come here, investigate carefully, and invest their money unhesitatingly in this new hemp industry without a doubt of its ultimate success.

The present is, of course, a period of waiting, involving much outlay of money, working, and planting, the results of which within the next 2 or 3 years will be apparent in an abundant harvest and the beginning of large exports of sisal fiber. The few tons already shipped found a ready market, and samples sold in London were pronounced to be of the best possible quality and brought 40 per cent. higher prices than the Mexican or Yucatan fiber.

This industry is to do much for the Bahamas in the near future, and is already helping the colony materially in furnishing employment at fair prices to the people and in putting money in circulation. Our own people should view this prosperity of their neighbors with satisfaction, for it means enlarged trade and commerce with the United States.

FUTURE PROSPECTS.

The outlook for the Bahamas is very encouraging. The large increase in the volume of general trade is satisfactory. The improved condition of the revenue, which makes possible a reduction of the public debt and the promotion of certain improvements long needed, is most gratifying. Inter-insular steam communication, at a small cost to the colony, is to be begun in June, 1891, and it must be a material benefit and convenience, with a tendency to develop and encourage trade, production, and social intercourse. And last, but not least, there is almost an assurance of cable communication during the present year with the United States.

The old order of things seems to be rapidly on the wane in this colony, largely owing to the infusion of energy and genuine administrative ability on the part of the present indefatigable governor, Sir Ambrose Shea, in whom the entire people place the utmost confidence and trust; and with the coming prosperity will come in many improvements, comforts, advantages, and conveniences never before enjoyed by the people of the Bahamas.

The most kindly feeling obtains in this colony towards the people of the United States, and when to their intimate trade relations shall be added the proposed cable to Florida it would seem as if their commercial union would be complete.

THOMAS J. McLAIN, Jr.,
Consul.

United States Consulate,
Nassau, March 10, 1891.

THE PETROLEUM TRADE OF STETTIN.

REPORT BY CONSUL KELLOGG.

The import of petroleum, directly and indirectly, from the United States to the port of Stettin in the year 1890 exceeds considerably that of the year previous. Although the vessels engaged in the trade were fewer in number, their registered tonnage was greater. The number of these vessels entering this harbor during the above year was 48, loaded with 232,575 barrels of petroleum. Of this number, 35 arrived directly from the United States, and the remaining 13 vessels, with 18,852 barrels of oil, came from North German ports. In addition to the above, 37 barges, with 27,713 barrels of oil, after unloading 8,861 barrels at the wharves of Stettin, were towed on up the River Oder to supply the interior. These barges were from Hamburg.

The following table shows not only the total import of petroleum to this port during the past 7 years, but also the number of vessels engaged in this important trade, viz:

Year.	Number of vessels.	Imports.
		Barrels.
1890	48	281,396
1889	79	277,701
1888	89	309,532
1887	79	314,473
1886	84	331,189
1885	87	295,856
1884	110	269,698

Notwithstanding the heavy duty on American petroleum and petroleum barrels, the Russian article, at present prices, is not able to successfully compete with the American, many preferring to pay a trifle more for the latter, knowing, as they do, that it is the better of the two, possessing higher lighting power and being freer from impurities.

In accordance with the German law, all imported petroleum must be brought to the German standard of inflammability, in order to reduce as much as possible the danger of fires from exploding oil.

During the last three months no Russian petroleum has come into this port, and the shipments for the past year have been small indeed.

Some years ago the German Government did much to promote and facilitate the importation of Russian petroleum by lowering the duty on all petroleum arriving in tanks, instead of barrels, whether by land or water; at the same time an extra duty was put upon all petroleum barrels. This duty still exists and amounts to 4 marks per 100 kilogrammes. The duties are now as they were then, to wit, 6 marks per 100 kilogrammes to be deposited for the tare, 20 per cent. of the goods' weight being reckoned as the weight of barrels as tare. These 4 marks are refunded when the barrels are reëxported within 9 months after their entry. Much complaint has arisen by reason of this extra duty on barrels, it being simply a double duty, as the petroleum is dutiable per gross weight, which includes the barrel. A majority of the barrels remain here, especially those going to the interior; they are not reëxported, and on that account the refundable duty is lost, the duty, of course, being paid on the arrival of the cargoes. A few weeks ago the president of the chamber of commerce of Stettin sent a petition to the German parliament urging that this extra duty on petroleum barrels be removed. In spite of all this good will, Russian petroleum can not hold its own, and it is being gradually driven out of this market. In order to get around the barrel duty and at the same time increase the importation of American petroleum, a company has been formed, composed of Hamburg, Bremen, and Stettin petroleum merchants, under the name of the German-American Petroleum Company, which intends building tank vessels for the transportation of petroleum from the United States. These tank vessels, ranging from 800 to 3,000 registered tons, with steam-power, will do away, to a great extent, with the importation of petroleum in barrels and, in fact, entirely supersede it, unless the barrel tax is removed.

The petroleum trade between this port and the United States is carried on entirely by sailing vessels, chiefly German, Scandinavian, Russian, and American, of from about 500 to 1,700 registered tons. They unload here in the shipping season—from March to October—about 50,000 barrels per month. These vessels bring over petroleum only and take back cargoes of rags, scrap glass, scrap iron, and cement.

Freights for petroleum from New York and Philadelphia to Stettin, per barrel containing 40 gallons, range from 2½ to 6 marks.

It is the general opinion that the tank vessels will so reduce the freights that the cost of petroleum here will diminish greatly. Vessels drawing over 17½ to 18½ feet of water lighten in Schweinemünde at merchant's expense here.

JAMES KELLOGG,
Consul.

UNITED STATES CONSULATE,
Stettin, January 31, 1891.

Italian shipping bounties.—In Consul-General Bourne's report, "Italy in 1889," appears the following paragraph (CONSULAR REPORTS, No. 120, page 107): "*Sailing vessels.*—In 1888 premiums for navigation were paid to 361 sailing vessels, making 800 voyages, carrying 617,068 tons freight, and sailing 4,962,178 miles, aggregating $——." Under date of March 13, 1891, Baron Fava, the Italian minister, in reply to a request from the Department for the figures necessary to complete the above paragraph, says that "the premiums paid during the year 1888 to the Italian sailing vessels amounted to 2,263,909.57 lire [$436,934.55]."

INDEX.

[Vol. XXXV. (Nos. 124, 125, 126, and 127) Consular Reports.]

A.

Page.

- Abbott, J. T. (minister, Bogota), duty changes in Colombia 117
    - free port of Bocas del Toro 118
- Adams, L. T. (consul, Horgen), American products in Switzerland 150
- Africa, railway extension in 332
- Agriculture, Argentine 40
    - British 161-164
    - in Sonora 158
    - Tamaulipas 600
    - the United Kingdom 537
- Amazon, immigration to the 312
    - steamship lines from the 433
    - valley, natural productions of the 318
        - resources of the 474
- Amazonas, the State of 608
- American beef in Switzerland 131
    - -Cadiz steam communication 160
    - flour trade in England 481
    - lard in Venezuela 283
    - -Melbourne trade 243
    - products in Switzerland 150
    - trade in Jamaica 125
        - Nicaragua 120
- Angers, slate quarries of 115
- Angora wool in Asia 568
- Arabia, sheep in 595
- Argentine Republic in 1890 37
    - (Revolution in Buenos Ayres, 37—general collapse of business, end of land speculations, 38—immigration, 39—agriculture, 40—railways, 41—public works, mines and mining, 42—petroleum, Argentine hard woods, cattle industry, 44—transit trade, river commerce, 45—foreign navigation, 46—foreign commerce, 49—imports and exports by custom-houses, 50—trade according to nationality, 51—imports, 52—exports, 60—monetary pressure, condition of export trade, 63—trade with the United States, 64—imports from the United States, 65—exports to the United States, 69—outlook for American trade, general business prospects, 71—general paralysis of credit, 72—trade returns for 1890, 73—tariff for 1891, import duties, 74—revenues and expenditures, 75—foreign debt, internal debt, total debt, 77—provincial debt assumed, 78—amount of cédulas in circulation, 79—bank-note circulation, 80—drain of gold, 82—views of President Peligrini, 83—failure of Baring Bros. & Co., outlook, 85.)

Page.

Argentine Republic, linseed in the 269
Artesian wells in Nicaragua 439
Artificial ice in the West Indies 315
Asia, Angora wool in 568
  sheep and wool in 566
Asylums, the foundling, of France 506
Australasia:
  American-Melbourne trade 243
  Labor in 285-302
Australasian-Canadian mail communication 238
Australia, iron and hardware industry of 88
  (Iron ores, 90—imports, 94—hardware, 95—locomotives, 96—prices, 97—steam communication with New York, 97.)
  steam communication between New York and 97
Australian wool, 1890 498
Austria, exports from, to the United States 458
Austrian postal savings banks, telegraphs, and telephones 184-194

B.

Bahamas, industry in the 627
  trade and industries of the 633
Bahia, opening for American goods in 331
Baker, E. L. (consul, Buenos Ayres), Argentine Republic in 1890 37
Bankruptcy in the United Kingdom 560
Banks and currency in Tamaulipas 602
  French savings 485
Beef, American in Switzerland 131
Belfast, linen interests of 116
Bennett, H. S. (vice-consul, Nantes), slate quarries of Angers 116
Birmingham, carpet manufacture in 454
  (Mills, number of looms, grades, 455—wages, 456.)
Bissinger, E. (consul, Beirut), railways in Syria 470
Bocas del Toro, free port of 118
Bombay, municipal administration of 492
Bounties, Italian shipping 640
Brazil:
  Amazon, immigration to the 312
  valley, natural productions of the 318
Bricks, exports of, from Huddersfield 323
British agriculture 161-164
British Colonies, foreign medical practitioners in 3
  shipbuilding in 1890 349
Brown, L. W. (consul, Glasgow), carpet industry of Glasgow 122
  shipbuilding in Scotland 133
Bruce, W. (consul, Leith), farm holdings in Great Britain 139
Butter, duties on, in French West Indies 124
Burke, D. N. (consul, Bahia), opening for American goods in Bahia 331

C.

Cadiz-American trade 630
  steam communication 160
Canada, consignment shipments to 36

Page.
Canal, Nicaraguan 145
  Sabanilla-Magdalena 137
Carpet industry of Glasgow 122
  manufacture in Birmingham 454
Catlin, G. L. (consul, Zurich), American beef in Switzerland 131
  Zurich factory operatives 335
Cattle industry, Argentine 44
Cement, Portland 615
Chemicals, exports of, from Huddersfield 321
Child, J. T. (consul-general, Bangkok), rice crop of Siam 383
China, sheep and wool in 597
Coahuila, vegetable fibers of 168–170
Coal mines of Rio Grande do Sul 376
Colombian customs duties 454
Colon, import tariff of 453
Colonization in Sonora 151
Commerce and trade of Maracaibo 619
  Gibraltar and Spain 308
Commercial travelers in foreign countries 101
(Great Britain, 103—Austria-Hungary, Belgium, Bulgaria, Denmark, 104—France, Germany, 105—Greece, Italy, Montenegro, Netherlands, Portugal, 108—Roumania, Russia, 109—Servia, Spain, 110—Sweden, 111—Norway, Switzerland, 112—Turkey, Argentine Republic, Brazil, 113—Chili, Colombia, Ecuador, Peru, Mexico, Uruguay, 114—Japan, Morocco, Egypt, Persia, 115.)
Corset steels 480
Crawford, J. M. (consul-general, St. Petersburg), Russian tariff and industries 98
Cuba, tariff of 5

D.

Daugherty, A. J. (consul, Callao), opening of the Verrugas bridge 440
Debt, national, of the United Kingdom 562
Deneen, S. H. (consul, Belleville), corset steels 480
Denmark, stock-feeding experiments in 250
Drayton, John (consul, Tuxpan), imports and exports of Tuxpan 377
Duties, ad valorem, in Germany 170
  Colombian customs 454
  on butter in French West Indies 124
  Spanish, increase of 132
Duty changes in Colombia 117

E.

Edwards, W. H. (consul-general, Berlin), glass industry in Germany 438
  invalidism and old-age insurance in Germany 1
Egypt, the scale insects in 316
Electricity for lighting purposes 348
Emigration from Havre in 1890 497
  the United Kingdom 555
  Italian 329
England, American flour trade in 481
  foreign trade of 336
  railway traffic and labor in 494
Estes, W. R. (consul, Kingston), American trade in Jamaica 125

Page.

Exports and imports, by custom-houses, Argentine 50
        of Tuxpan 377
        the Argentine Republic 60
        to the United States 69
    declared for the United States from the United Kingdom, 1890 530
        Tamaulipas 604
    from Austria to the United States 458
        Huddersfield to the United States 321
        Sabanilla 472
        the United Kingdom, 1889 and 1890 514
    of linseed from India 342
        Liverpool 129
        metals from Greece 32
        Piræus 345
        Sonora 153
        Spain 448
        Switzerland to the United States 437
        Vera Cruz 437
    to the United States from Germany 487

F.

Factory operatives of Zurich 335
Farm holdings in Great Britain 139
Fechet, E. O. (consul, Piedras Negras), Mexican-ore shipments to Germany 330
Finances, Argentine 75
Fisheries of Lower California 433
Flax-culture in Russia 360
    Irish, decline of industry of 626
Flour trade, American, in England 481
Foo-Chow, sheep and wool in 598
Foundling asylums of France 506
France, the foundling asylums of 506
Free port of Bocas del Toro 118
French savings banks 485
    West Indies, duties on butter in 124

G.

German pork in Italy 311
    sugar-beet legislation 253
Germany:
    Ad valorem duties 170
    Exports to the United States from 487
    Game preservation 261
    Glass industry of 438
    Importation of hogs 249, 284
    Invalidism and old-age insurance in 1
    Mexican-ore shipments to 330
    Willow-ware manufacture in 625
Gibraltar and Spain, commerce in 308
Glasgow, carpet industry of 122
Glass industry of Germany 438
Gold mines, the Malay 599

Page.
Goldschmidt, J. (consul-general, Vienna), exports from Austria to the United States ... 458
Gorée-Dakar, shipping at ... 614
Gottschalk, L. (consul, Stuttgart), labor legislation in Europe ... 477
Great Britain, farm holdings in ... 139
Greek mining and metallurgy ... 20
  (Scope and resources, 20—mining in ancient times, 21—modern mining and metallurgy, 23—commerce in mine products, 31—exports and imports, 32—future of the industry, 35.)
Griffin, G. W. (consul, Sydney), iron and hardware industry of Australia ... 88
Guaymas, commerce and industries of ... 151
  (State of Sonora, 151—imports, 152—exports, 153—navigation, 154—coasting trade, 155—railways, 156—mining interests, 157—agriculture and horticulture, population, 158—public instructions, 159—colonization, 159.)
Gulf of St. Lawrence mackerel ... 344

H.

Hall, I. C. (consul, Charlottetown), Gulf of St. Lawrence mackerel ... 344
Hansmann, C. A. (consular clerk, Lyons), manufacture of piece-dyed satins ... 460
Hardware and iron industry of Australia ... 88
Havre, emigration from, in 1890 ... 497
Heenan, T. E. (consul, Odessa), flax-culture in Russia ... 360
Hemp industry in the Bahamas ... 637
Hill, F. D. (consul, Montevideo), changes in the Uruguayan tariff ... 86
Hinnen, J. E. (vice consul-general, Berne), Swiss exports to the United States ... 437
Hoff, J. D. (consul, Vera Cruz), commerce and industries of Vera Cruz ... 435
Hollis, G. F. (consul, Cape Town), railway extension in South Africa ... 332
Hongkong, rice in ... 378
Horticulture in Sonora ... 158
Huddersfield, exports from, to the United States ... 321
  (Plush, worsteds, woolens, chemicals, 321—mohair, wool, wool market, 322—bricks, 323.)

I.

Ice, artificial, in the West Indies ... 315
Immigration, Argentine ... 39
    into Rio Grande do Sul ... 373
    to the Amazon ... 312
Import duties, Argentine ... 74
    tariff at Colon ... 453
Imports and exports of Tuxpan ... 377
    by custom-houses, Argentine ... 50
  Argentine ... 52
  into the United Kingdom, 1889 and 1890 ... 511
  iron, of Australia ... 94
  of linseed into Bombay, Karachi, and Calcutta ... 343
  of Liverpool ... 127
    Lower California ... 433
    metals into Greece ... 32
    Piræus ... 345
    rice at Matanzas ... 380
    Sabanilla ... 471
    Spain ... 442
    Sonora ... 152
  to the Argentine Republic from the United States ... 65

Page.
India, linseed in 341
    (Exports, 342—imports, 343.)
    rice in 381
    sheep and wool in 594
    the wool trade of 569
Insurance, old-age and invalidism, in Germany 1
Interoceanic railway 198
Invalidism and old-age insurance in Germany 1
Irish flax industry, decline of 626
Iron and hardware industry of Australia 88
    ores in Australia 90
Italian emigration 329
    shipping bounties 640
Italy:
    German pork 311
    Macaroni (*see* Macaroni for particulars) 199–222

J.

Jamaica, American trade in 125
Japan, sheep in 595
Jerrett, John (consul, Birmingham), carpet manufacture in Birmingham 454
Jones, E. R. (consul, Cardiff), British shipbuilding in 1890 349

K.

Kanagawa, sheep in 596
Keevil, A. B. (consul, Martinique), duties on butter in French West Indies 124
Kerbey, J. O. (consul, Para), resources of the Amazon Valley 474
    steamship lines from the Amazon 433

L.

Labor and railway traffic in England 494
    in Australasia 285–302
    legislation in Europe 477
Lay, R. G. (consul-general, Ottawa), consignment shipments to Canada 36
Limoges, the porcelain industry at 504
Linen interests of Belfast 116
Linseed in the Argentine Republic 269
    India 341
Liverpool, commerce of 127
    (Imports, 127—exports, 129—navigation, 131.)
Locomotives, American, in Australia 96
Lower California, trade and industries of 431
    (Mines and mining, 431—a new dye, sugar plantations, 432—fisheries, imports, 433.)
Lyons, macaroni in 222
    manufacture of piece-dyed satins at 460
    (Elements of cost of production, 462—experts' estimates of cost of production, 464—experts' and manufacturers' statements of cost, 467—market value and summary, 470.)

M

Page.

Macaroni in France 222

manufacture in Italy 199

(Rome, 199—Castlamare, 210—Genoa, 211—Leghorn, 213—Licata, 214 —Marsala, Messina, 216—Naples, 218—Palermo, 219—Trapani, 221.)

McDowall, A. C. (consul agent, Piræus), commerce and industries of Piræus 345

Mackerel, Gulf of St. Lawrence 344

Magdalena-Sabanilla Canal 137

Malay gold mines 599

Manaos, trade of 608

Manatt, I. J. (consul, Athens), Greek mining and metallurgy 20

Maracaibo, trade and commerce of 611

Matanzas, imports of rice at 380

Medical practitioners, foreign, in British colonies 3

Merchant marine of Spain 320

Merrill, S. J. (consul-general, Calcutta), linseed in India 341

rice in India 381

Metallurgy and mining, Greek 20

Mexican ore shipments to Germany 330

United States 327

Mexico:

Railroads in 181–198

trade of United States with 605

Vera Cruz custom-house 171

Mills, carpet, in Birmingham 455

Mines and mining, Argentine 42

in Lower California 431

in the United Kingdom 543

the Malay, gold 599

Mining and metallurgy, Greek 20

interests of Sonora 157

Morocco, commerce and industries of 173–181

Municipal administration of Bombay 492

N.

Nagaski, sheep in 596

Negley, C. (consul, Rio Grande do Sul), Porto Alegre 369

New, J. C. (consul general, London), profit sharing 385

Newell, W. (consul, Managua), American trade in Nicaragua 120

the Nicaraguan Canal 145

artesian wells in Nicaragua 439

Nicaragua, American trade in 120

artesian wells in 439

telegraphs of 629

Nicaraguan Canal 145

(Report of Messrs. Roman and Sonnenstern, 145.)

Nickeus, J. (consul, Baranquilla), port and trade of Sabanilla 471

Sabanilla-Magdalena Canal 137

O.

Octroi of Rouen 339

Ore shipments, Mexican, to Germany 330

United States 327

Ores, iron, in Australia 90

P.

Page.

Panama-Chili freight rates 242
Palestine, sheep and wool in 594
Patents in the United Kingdom 561
Peligrini, views of President 83
Petroleum in the Argentine Repubilc 44
  trade of Stettin 639
Piece-dyed satins, manufacture of, at Lyons 460
Pierce, F. H. (consul, Matanzas), imports of rice at Matanzas 380
Pierce, W. P. (consul, Trinidad), trade and tariff of Trinidad 365
Piræus, commerce and industries of 345
  (Imports and exports, 345—flour mills, cotton mills, 347—iron works, distilleries, oil and soap works, macaroni factories, paper manufactory, chair factories, 347—shipping, 348.)
Plush, exports of, from Huddersfield 321
Population in the United Kingdom 551
  movement of, in cities 87
Porcelain industry at Limoges 504
Port regulations of Colombia 118
Portland cement 615
Porto Alegre, Brazil 369
  (Approaches, steamship lines, 370—obstructions to navigation, 371—up the lake, the city, 372—manufactures and commerce, immigration, 373—colonies, products, 374—division and price of land, methods of agriculture, churches and schools, 375—railroad shops, river steamboats, coal mines, 376—future prospects, 377.)
Post-offices in the United Kingdom 545
Potato blight 182
Profit sharing 385

Q.

Quarries, slate, of Angers 115

R

Railroad construction in Siam 190
Railroads in Mexico 181, 198
  Tamaulipas 602
  of Vera Cruz 435
Railway extension in South Africa 332
  traffic and labor in England 494
Railways, Argentine 41
  in Syria 470
  the United Kingdom 557
  of Sonora 156
Republic of Colombia, duty changes in 117
  port regulations of 118
Revenue of the United Kingdom 562
Rice crop of Siam 383
  imports of, at Matanzas 380
  in Hongkong 378
  India 381
Rouen, octroi of 339
Ruby, S. (consul, Belfast), linen interests of Belfast 116

Page.
Russia, flax culture in 360
  the trade of 502
  wine industry of 271
Russian tariff and industries 98
Ryder, H. B. (consul, Copenhagen), movements of population to cities 87

S.

Sabanilla-Magdalena Canal 137
  port and trade of 471
  (Imports, 471—exports, 472.)
Sanitary conditions of Tamaulipas 601
Satins, manufacture of piece-dyed, at Lyons 460
Savings banks, French 485
Schools, public, in Spain 142
Scotland, farming in 252
  ship-building in 133
Sheep and wool in Asia 500
  China 597
  Foo-Chow 598
  India 594
  Palestine 594
  Sivas 566
  in Arabia 595
  Japan 595
  Kanagawa 596
  Nagasaki 596
Sherman, T. H. (consul, Liverpool), commerce of Liverpool 127
  commercial travelers in foreign countries 101
Shipbuilding, British, in 1890 349
  in Scotland 133
Shipping at Gorée-Dakar 614
  bounties, Italian 640
  in the United Kingdom 531
  of Piræus 348
  Vera Cruz 435
Siam, rice crop of 383
  railroad construction 196
  silk culture 303
Simons, O. H. (consul, Hongkong), rice in Hongkong 378
Sims, W. E. (consul, Colon), Colombian customs duties 454
  import tariff of Colon 453
Sivas, sheep and wool in 566
Slate quarries in Angers 115
Smith, D. H. (consul, Nogales), Mexican ore shipments to the United States 327
Smyth, W. P. (commercial agent, Huddersfield), commercial situation in Yorkshire 324
  exports from Huddersfield to the United States 321
  foreign trade of England 336
Spain:
  Merchant marine 320
  Our commercial possibilities with 441
  (Imports, 442—exports, 448.)
  Public schools in 142
  (Debt to teachers, 143—schools of Cadiz, 143.)
  Tariff changes 194

Page.

- Spanish duties, increase of 132
- Steam communication between Australia and New York 97
  - Cadiz-American 160
- Steamship lines from the Amazon 433
  - of Porto Alegre 370
- Stettin, the petroleum trade of 639
- Strikes in the United Kingdom 557
- Stock-feeding experiments 250
- Sugar-beet legislation in Germany 253
  - plantations in Lower California 432
- Sweden, commerce and industries of 223–237
- Swiss exports to the United States 437
  - (Basle, 437—Berne, Geneva, Horgen, St. Gall, Zurich, 438.)
- Switzerland, American beef in 131
  - products in 150
- Syria, railways in 470

T.

- Tamaulipas, agriculture in 600
  - banks and currency in 602
  - declared exports from 604
  - railroads in 602
  - sanitary conditions of 601
  - the State of 600
- Tariff, Argentine, for 1891 74
  - of Cuba 5
  - import, at Colon 453
  - of Spain, changes in the 194
  - Russian 98
  - Uruguayan, changes in 86
- Tariffs and trade of Trinidad 365
- Telegraphs of Nicaragua 629
- Trade, American flour, in England 481
  - of Russia 502
- Tramways in the United Kingdom 551
- Trinidad, trade and tariffs of 365
  - vegetable fibers of 164–168
  - (Trinidad and Tobago immigration fund, 368.)
- Turner, R. W. (consul, Cadiz), Cadiz-American steam communication 160
  - our commercial possibilities with Spain 441
  - increase of Spanish duties 132
  - public schools in Spain 142

U.

- United Kingdom, agriculture in the 537
  - bankruptcy in the 560
  - declared exports from, for the United States 530
  - emigration from the 555
  - exports from, in 1889 and 1890 514
  - imports into, in 1889 and 1890 511
  - in 1889 and 1890 511
  - mines in the 543
  - national debt of the 562
  - patents in the 561

Page.

- United Kingdom, population in the 551
  - post-offices in the 545
  - railways in the 547
  - revenue of the 562
  - shipping in the 531
  - strikes in the 557
  - tramways in the 551
- United States, exports to, from Germany 487
  - Argentine Republic 69
  - imports from, to Argentine Republic 65
  - trade of, with Mexico 605
- Uruguayan tariff, changes in 86

V.

- Vegetable fibers of Coahuila 168–170
  - Trinidad 164–168
- Venezuela, American lard in 283
- Vera Cruz, commerce and industries of 435
  - custom-house 171
  - (Industries, trade, shipping, railroads, 435—harbor, 436—exports, 437.)
- Verrugas bridge, opening of 440
- Viosca, J. (consul, La Paz), trade and industries of Lower California 431

W.

- Wages in carpet mills in Birmingham 456
- West Indies, artificial ice in 315
- White, H. (secretary of legation, London), foreign medical practitioners in British colonies 3
- Williams, C. P. (consul, Rouen), octroi of Rouen 339
- Williams, R. O. (consul-general, Havana), tariff of Cuba 5
- Willard, A. (consul, Guaymas), commerce and industries of Guaymas 151
- Willow-ware manufacture in Germany 625
- Wine industry of Russia 271
- Wood, C. M. (vice-consul-general, Rome), Italian emigration 329
- Wool and sheep in Asia 566
  - China 597
  - Foo-Chow 598
  - India 594
  - Palestine 594
  - Sivas 566
  - Angora, in Asia 568
  - Australian, 1890 498
  - exports of, from Huddersfield 322
  - trade of India 569
- Woolens, exports of, from Huddersfield 321
- Worsteds, exports of, from Huddersfield 321

Y.

- Yorkshire, commercial situation in 324

Z.

- Zulia, the State of 613
- Zurich factory operatives 335

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52D CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 18.

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ON

COMMERCE, MANUFACTURES, ETC.

No. 128.—MAY, 1891.

THE CONSTITUTION OF BRAZIL.

REPORT BY MINISTER CONGER, OF RIO DE JANEIRO.

I have the honor to report that the constitutional congress met on the 15th day of November last, and, after having considered the constitution submitted by the Provisional Government, adopted it, with few amendments. I inclose herewith a copy.

In addition to the election of General Deodora as President, General Floriano Peixoto was elected Vice President. The day after the election the President was inaugurated, taking the oath of office in the presence of the members of Congress and a large number of citizens.

E. H. CONGER,
Minister.

UNITED STATES LEGATION,
Rio de Janeiro, March 6, 1891.

CONSTITUTION OF THE REPUBLIC OF THE UNITED STATES OF BRAZIL.

[Inclosure in Minister Conger's report.—Translated in the Department.]

We, the representatives of the Brazilian people, united in constitutional congress, to organize a free and democratic régime, do establish, decree, and promulgate the following constitution of the Republic of the United States of Brazil:

TITLE I.—THE FEDERAL ORGANIZATION.

Preliminary Provisions.

ARTICLE 1. The Brazilian nation, adopting as a form of government the Federal Republic proclaimed November 15, 1889, constitutes itself, by the perpetual and indissoluble union of its former provinces, the United States of Brazil.

ART. 2. Each of the former provinces shall constitute a State, and the former municipal district shall form the Federal District, continuing to be the capital of the Union until the following article shall be carried into effect.

ART. 3. In the center there is allotted as the property of the Union a zone of 14,400 square kilometres, which in due time shall be laid off for the establishment of the future federal capital.

Sole paragraph.—After the change of site of the capital, the present Federal District shall constitute a State.

ART. 4. The States shall have the right to incorporate themselves one with another, subdivide themselves, dismember themselves to join with others or form new States, with the consent of the respective local legislatures in two successive annual sessions and the approval of the national Congress.

ART. 5. It shall be the duty of each State to provide, at its own expense, for the necessities of its government and administration; but the Union shall extend assistance to any State which, in case of public calamity, shall demand it.

ART. 6. The Federal Government shall not interfere in matters pertaining peculiarly to the States, save:

(1) To repel foreign invasion, or the invasion of one State by another.

(2) To maintain the federative republican form of government.

(3) To reëstablish order and tranquillity in the States at the request of the respective governments.

(4) To assure the execution of the laws and federal decrees.

ART. 7. It is the exclusive prerogative of the Union to decree:

(1) Duties on imports from foreign countries.

(2) Duties of entry, departure, and stay of vessels; the coasting trade for national articles being free of duties, as well as for foreign merchandise that has already paid an import duty.

(3) Stamp duties, save the restrictions imposed by article 9, § 1, No. 1.

(4) Postal and federal telegraphic taxes.

§ 1. The Union alone shall have the power:

(1) To establish banks of emission.

(2) To create and maintain custom-houses.

§ 2. The taxes decreed by the Union shall be uniform for all the States.

§ 3. The laws of the Union and the acts and decisions of its authorities shall be executed throughout the country by federal officials, except that the enforcement of the former may be committed to the governments of the States, with the consent of the said States.

ART. 8. The Federal Government is forbidden to make distinctions and preferences in favor of the ports of any of the States against those of others.

ART. 9. The States alone are competent to decree taxes:

(1) On the exportation of merchandise not belonging to other States.

(2) On landed property.

(3) On the transmission of property.

(4) On industries and professions.

§ 1. The States also have the exclusive right to decree:

(1) Stamp duties on instruments emanating from their respective governments and business of their internal economy.

(2) Contributions touching their own telegraphs and postal service.

§ 2. The products of the other States are exempt from imposts in the State whence they are exported.

§ 3. It is lawful for a State to levy duties on imports of foreign goods only when intended for consumption in its own territory; but it shall, in such case, cover into the federal treasury the amount of duties collected.

§ 4. The right is reserved to the States of establishing telegraph lines between the different points of their own territory, and between these and those of other States not served by federal lines; but the Union may take possession of them when the general welfare shall require.

ART. 10. The several States are prohibited from taxing the federal property or revenue, or anything in the service of the Union, and *vice versa*.

ART. 11. It is forbidden to the States, as well as to the Union:

(1) To impose duties on the products of the other States, or of foreign countries, in transit through the territory of any State, or from one State to another, as also on the vehicles, whether by land or water, by which they are transported.

(2) To establish, aid, or embarrass the exercise of religious worship.

(3) To enact *ex post facto* laws.

ART. 12. In addition to the sources of revenue set forth in articles 7 and 9, it shall be lawful for the Union, as well as for the States, cumulatively or otherwise, to create any others whatsoever which may not be in contravention of the terms of articles 7, 9, and 11, § 1.

ART. 13. The right of the Union and of the States to legislate in regard to railways and navigation of internal waters shall be regulated by federal law.

Sole paragraph.—The coastwise trade shall be carried on in national vessels.

ART. 14. The land and naval forces are permanent national institutions, intended for the defense of the country from foreign attack and the maintenance of the laws of the land. Within the limits of the law, the armed forces are from their nature held to obedience, each rank to its superior, and bound to support all constitutional institutions.

ART. 15. The legislative, executive, and judicial powers are organs of the national sovereignty, harmonious and independent among themselves.

SECTION I.—THE LEGISLATIVE POWER.

Chapter I.—General provisions.

ART. 16. The legislative power is vested in the national Congress, with the sanction of the President of the Republic.

§ 1. The national Congress is composed of two branches, the Chamber of Deputies and the Senate.

§ 2. The elections for senators and for deputies shall be held simultaneously throughout the country.

§ 3. No person shall be senator and deputy at the same time.

ART. 17. The Congress shall assemble in the federal capital on the 3d day of May of each year, unless some other day shall be fixed by law, without being convoked, and shall continue in session 4 months from the date of the opening, and may be prorogued, adjourned, or convoked in extraordinary session.

§ 1. The Congress alone shall have the power to deliberate on the prorogation or extension of its session.

§ 2. Each legislature shall last for 3 years.

§ 3. The governor of any State in which there shall be a vacancy in the representation, including the case of resignation, shall order a new election to be held at once.

ART. 18. The Chamber and the Senate shall hold their sessions apart and in public, unless otherwise resolved by a majority vote, and shall deliberate only when, in each of the chambers, there shall be present an absolute majority of its members.

Sole paragraph.—To each of the chambers shall belong the right to verify and recognize the powers of its members, to choose its own presiding officers, to organize its internal government, to regulate the service of its own police rules, and to choose its own secretaries.

ART. 19. The deputies and senators can not be held to account for their opinions, expressions, and votes in the discharge of their mandate.

ART. 20. Deputies and senators, from the time of receiving their certificate of election until a new election, can not be arrested or proceeded against criminally without the permission of their respective chambers, except in the case of a flagrant crime, in which bail is inadmissible. In such case, the prosecution being carried to exclusive decision, the prosecuting authority shall send the court records to the respective chamber for its decision on the prosecution of the charge, unless the accused shall prefer immediate judgment.

ART. 21. The members of the two chambers, on taking their seats, shall take a formal obligation, in public session, to perform their duties faithfully.

ART. 22. During the sessions the senators and deputies shall receive an equal pecuniary salary and mileage, which shall be fixed by Congress at the end of each session for the following one.

ART. 23. No member of the Congress, from the time of his election, can make contracts with the executive power or receive from it any paid commission or employment

§ 1. Exceptions to this prohibition are:

(1) Diplomatic missions.

(2) Commissions or military commands.

(3) Advancement in rank and legal promotion.

§ 2. No deputy or senator, however, can accept an appointment for any mission, commission, or command mentioned in Nos. 1 and 2 of the preceding paragraph, without the consent of the chamber to which he belongs, when such acceptance would prevent the exercise of his legislative duties, except in case of war or such as involve the honor or integrity of the nation.

ART. 24. No deputy or senator can be president or form part of a directory of any bank, company, or enterprise which enjoys the favors of the Federal Government defined in and by law.

Sole paragraph.—Nonobservance of the provisions of the foregoing article by any deputy or senator shall involve the loss of his seat.

ART. 25. The legislative commission shall be incompatible with the exercise of any other functions during the sessions.

ART. 26. The conditions for eligibility to the national Congress are:

(1) To be in possession of the rights of Brazilian citizenship and to be registered as a voter.

(2) For the Chamber, to have been for more than 4 years a Brazilian citizen; and for the Senate, for more than 6 years. This provision does not include those citizens referred to in No. 4, article 69.

ART. 27. The Congress shall by special legislation declare the cases of electoral incompetency.

Chapter II.—The Chamber of Deputies.

ART. 28. The Chamber of Deputies shall be composed of the representatives of the people, elected by the States and the Federal District by direct suffrage, the representation of the minority being guarantied.

§ 1. The number of the deputies shall be fixed by law in such a way as not to exceed one for each 70,000 inhabitants, and that there shall not be less than four for each State.

§ 2. To this end the Federal Government shall at once order a census to be taken of the population of the Republic, which shall be revised every 10 years.

ART. 29. To the Chamber belongs the initiative in the adjournment of the legislative sessions and in all legislation in regard to taxation, to the determination of the size of the army and navy, in the discussion of propositions from the executive power, and in the decision to proceed or not in charges against the President of the Republic under the terms of article 53, and against the ministers of state in crimes connected with those of the said President.

Chapter III.—The Senate.

ART. 30. The Senate shall be composed of citizens eligible under the terms of article 26 and more than 35 years of age, to the number of three senators for each State and three for the Federal District, chosen in the same manner as the deputies.

ART. 31. The mandate of a senator shall continue for 9 years, and one-third of the Senate shall be renewed every 3 years.

Sole paragraph.—A senator elected in place of another shall exercise his mandate during the remainder of the term of the latter.

ART. 32. The Vice President of the Republic shall be the president of the Senate, where he shall vote only in case of tie, and shall be replaced in case of absence or impediment by the vice president of that body.

ART. 33. The Senate alone shall have the power to try and sentence the President of the Republic and the other federal officers designated by the constitution, under the conditions and in the manner which it prescribes.

§ 1. The Senate, when sitting as a tribunal of justice, shall be presided over by the president of the federal supreme court.

§ 2. It shall not pass sentence of condemnation unless two-thirds of its members be present.

§ 3. It shall not impose other penalties than the loss of office and prohibition from holding any other, without prejudice to the action of ordinary justice against the condemned.

Chapter IV.—Powers of Congress.

ART. 34. The national Congress shall have exclusive power:

(1) To estimate the revenue, and fix the expenditures of the Federal Government annually, and take account of the receipts and expenditures of each financial budget.

(2) To authorize the executive to contract loans and make other operations of credit.

(3) To legislate in regard to the public debt and furnish means for its payment.

(4) To control the collection and disposition of the national revenue.

(5) To regulate international commerce, as well as that of the States with each other and with the Federal District; to establish and regulate the collection of customs duties in the ports, create or abolish warehouses of deposit.

(6) To legislate in regard to navigation of rivers running through more than one State, or through foreign territory.

(7) To determine the weight, value, inscription, type, and denomination of the currency.

(8) To create banks of emission, legislate in regard to this emission and to tax it.

(9) To fix the standard of weights and measures.

(10) To determine definitely the boundaries of the States between each other, those of the Federal District, and those of the national territory with the adjoining nations.

(11) To authorize the Government to declare war, if there be no recourse to arbitration or in case of failure of this, and to make peace.

(12) To decide definitively in regard to treaties and conventions with foreign nations.

(13) To remove the capital of the Union.

(14) To extend aid to the States in the case referred to in article 5.

(15) To legislate in regard to federal postal and telegraph service.

(16) To adopt the necessary measures for the protection of the frontiers.

(17) To fix every year the number of the land and naval forces.

(18) To make laws for the organization of the army and navy.

(19) To grant or refuse to foreign forces passage through the territory of the country to carry on military operations.

(20) To mobilize and make use of the national guard or local militia in the cases designated by the Constitution.

(21) To declare a state of siege at one or more points in the national territory, in the emergency of an attack by foreign forces, or internal disturbance, and to approve or suspend the state of siege proclaimed by the executive power or its responsible agents in the absence of the Congress.

(22) To regulate the conditions and methods of elections for federal offices throughout the country.

(23) To legislate upon the civil, criminal, and commercial laws and legal procedures of the federal judiciary.

(24) To establish uniform naturalization laws.

(25) To create and abolish federal public offices, to fix the duties of the same, and designate their salaries.

(26) To organize the federal judiciary according to the terms of article 55 and the succeeding, section 3.

(27) To grant amnesty.

(28) To commute and pardon penalties imposed upon federal officers for offenses arising from their responsibility.

(29) To make laws regarding Government lands and mines.

(30) To legislate in regard to the municipal organization of the Federal District, as well as to the police, the superior instruction and other services which in the capital may be reserved for the Government of the Union.

(31) To govern by special legislation those points of the territory of the Republic needed for the establishment of arsenals, other establishments or institutions for federal uses.

(32) To settle cases of extradition between the States.

(33) To enact such laws and resolutions as may be necessary for the exercise of the powers belonging to the Union.

(34) To enact the organic laws necessary for the complete execution of the requirements of the Constitution.

(35) To prorogue and adjourn its own sessions.

ART. 35. It shall belong likewise to the Congress, but not exclusively:

(1) To watch over the Constitution and the laws, and provide for necessities of a federal character.

(2) To promote in the country the development of literature, the arts, and sciences, together with immigration, agriculture, manufactures, and commerce, without privileges such as would obstruct the action of the local governments.

(3) To create institutions of higher instruction and of high school education in the States.

(4) To provide for high school instruction in the Federal District.

Chapter V.—Laws and resolutions.

ART. 36. Save the exceptions named in article 27, all bills may originate, indifferently, in the Chamber or in the Senate, and may be introduced by any of their members.

ART. 37. A bill, after being passed in one of the chambers, shall be submitted to the other, and, if the latter shall approve the same, it shall send it to the executive, who, if he approve it, shall sanction and promulgate it.

§ 1. If, however, the President of the Republic shall consider it unconstitutional, or contrary to the good of the nation, he shall refuse his sanction to the same within 10 working days, counted from that on which he received it (the bill), and shall return it, within the same period, to the chamber in which it originated, with his reasons for his refusal.

§ 2. The failure of the executive to signify his disapproval within the above-named 10 days shall be considered as an approval, and in case his sanction be refused after the close of the session of the Congress, the President shall make public his reasons therefor.

§ 3. The bill sent back to the chamber where it originated shall be discussed and voted upon by call of names, and shall be considered as passed if it obtain two-thirds of the votes of the members present; and, in this case, it shall be sent to the other chamber, whence, if it receive the same majority, it shall return, as a law, to the executive to be formally promulgated.

§ 4. The sanction and promulgation shall be effected in the following forms:

(1) "The national Congress enacts and I sanction the following law (or resolution)."

(2) "The national Congress enacts and I promulgate the following law (or resolution)."

ART. 38. If the law be not promulgated by the President of the Republic within 48 hours, in the cases provided for in §§ 2 and 3 of the preceding article, the president of the Senate, or the vice president, if the former shall not do so in the same space of time, shall promulgate it, making use of the following formula: "I, president (or vice president) of the Senate, make known to whomesoever these presents may come, that the national Congress enacts and promulgates the following law (or resolution)."

ART. 39. A bill from one chamber, amended in the other, shall return to the former, which, if it accept the amendments, shall send it, changed to conform with the same, to the executive.

§ 1. In the contrary case, it shall go back to the amending chamber, where the alterations shall be considered as approved, if they receive the vote of two-thirds of the members present; in the latter case, the bill shall return to the chamber where it originated, and there the amendments can be rejected only by a two-thirds vote.

§ 2. If the alterations be rejected by such vote, the bill shall be submitted without them to the approval of the executive.

ART. 40. Bills finally rejected or not approved, shall not be presented again in the same legislative session.

SECTION II.—THE EXECUTIVE POWER.

Chapter I.—The President and Vice President.

ART. 41. The executive power shall be exercised by the President of the United States of Brazil, as elective chief of the nation.

§ 1. The Vice President, elected simultaneously with the President, shall serve in place of the latter in case of impediment and succeed him in case of vacancy in the Presidency.

§ 2. In case of impediment or vacancy in the Vice Presidency, the following officers, in the order named, shall be called to the Presidency: The vice president of the Senate, the president of the Chamber of Deputies, the president of the federal supreme court.

§ 3. The following are the conditions of eligibility to the Presidency or Vice Presidency of the Republic:

(1) Must be a native of Brazil.

(2) Must be in the exercise of political rights.

(3) Must be more than 35 years of age.

ART. 42. In case of vacancy from any cause in the Presidency or Vice Presidency before the expiration of the first 2 years of the Presidential term, a new election shall be held.

ART. 43. The President shall hold his office during 4 years, and is not eligible for reëlection for the next succeeding term.

§ 1. The Vice President who shall fill the Presidency during the last year of the Presidential term shall not be eligible to the Presidency for the next term of that office.

§ 2. On the same day on which his Presidential term shall cease the President shall, without fail, cease to exercise the functions of his office, and the newly elected President shall at once succeed him.

§ 3. If the latter should be hindered or should fail to do so, the succession shall be effected in accordance with §§ 1 and 2 of article 41.

§ 4. The first Presidential term shall expire on the 15th of November, 1894.

ART. 44. On taking possession of his office, the President, in a session of the Congress, or, if it be not assembled, before the federal supreme court, shall pronounce the following affirmation:

"I promise to maintain the federal Constitution and comply with its provisions with perfect loyalty, to promote the general welfare of the Republic, to observe its laws, and support the union, integrity, and independence of the nation."

ART. 45. The President and Vice President shall not leave the national territory without the permission of the Congress, under penalty of loss of office.

ART. 46. The President and Vice President shall receive the salary fixed by the Congress in the preceding Presidential term.

Chapter II.—Election of President and Vice President.

ART. 47. The President and Vice President shall be chosen by direct suffrage of the nation and an absolute majority of the votes.

§ 1. The election shall take place on the 1st day of March in the last year of the Presidential term, and the counting of the votes cast at the different precincts shall at once be made in the respective capitals of the States and in the federal capital. The Congress shall make the count at its first session of the same year, with any number of members present.

§ 2. If none of those voted for shall have received an absolute majority, the Congress shall elect, by a majority of votes of those present, one of the two who, in the direct election, shall have received the highest number of votes. In case of a tie the older shall be considered elected.

§ 3. The manner of the election and of the counting of the votes shall be regulated by ordinary legislation.

§ 4. The relatives, both by consanguinity and by marriage, in the first and second degrees, of the President and Vice President shall be ineligible for the offices of President and Vice President, provided the said officials are in office at the time of the election or have left the office even 6 months before.

Chapter III.—The powers of the executive.

ART. 48. To the President of the Republic shall belong the exclusive right to—

(1) Sanction, promulgate, and make public the laws and resolutions of the Congress; issue decrees, instructions, and regulations for their faithful execution.

(2) Choose and dismiss at will the cabinet officers.

(3) Exercise or appoint some one to exercise supreme command over the land and naval forces of the United States of Brazil, as well as over the local police, when called to arms for the internal or external defense of the Union.

(4) Govern and distribute, under the laws of the Congress, according to the necessities of the National Government, the land and naval forces.

(5) Dispose of the offices, both military and civil, of a federal character, with the exceptions specified in the Constitution.

(6) Pardon crimes and commute penalties for offenses subject to federal jurisdiction, save in the cases mentioned in article 34, No. 28, and article 52, § 2.

(7) Declare war and make peace, under the provisions of article 34, No. 11.

(8) Declare war at once in case of foreign invasion or aggression.

(9) Give an annual statement to the national Congress of the condition of the country, with a recommendation of pressing provisions and reforms, through a message, which he shall send to the secretary of the Senate on the day of the opening of the legislative session.

(10) Convoke the Congress in extra session.

(11) Appoint the federal judges when proposed by the supreme court.

(12) Appoint the members of the federal supreme court and ministers of the diplomatic corps, with the approval of the senate; and, in the absence of the Congress, appoint them in commission until considered by the senate.

(13) Appoint the other members of the diplomatic corps and consular agents.

(14) Maintain relations with foreign states.

(15) Declare, directly, or through his responsible agents, a state of siege at any point of the national territory, in case of foreign aggression or serious internal disturbance. (Article 6, No. 3; article 34, No. 21; and article 80.)

(16) Set on foot international negotiations, celebrate agreements, conventions, and treaties, always *ad referendum* to the Congress, and approve those made by the States in conformity with article 65, submitting them when necessary to the authority of the Congress.

Chapter IV.—Cabinet ministers.

ART. 49. The President of the Republic shall be assisted by the ministers of state (cabinet officers), agents of his confidence, who sign the acts and preside over their respective departments into which the federal administration is divided.

ART. 50. The cabinet ministers shall not exercise any other employment or function of a public nature, be eligible to the Presidency or Vice Presidency of the Union, or be elected deputy or senator.

Sole paragraph.—Any deputy or senator, who shall accept the position of cabinet minister, shall lose his seat in the respective chamber, and a new election shall at once be held, in which he shall not be voted for.

ART. 51. The cabinet ministers shall not appear at the sessions of the Congress, and shall communicate with that body in writing only or by personal conference with the committees of the chambers.

The annual report of the ministers shall be addressed to the President of the Republic, and distributed to all the members of the Congress.

ART. 52. The cabinet ministers shall not be responsible to the Congress or to the courts for advice given to the President of the Republic.

§ 1. They shall be responsible, nevertheless, with respects to their acts, for crimes defined in the law.

§ 2. For common crimes and those for which they are responsible they shall be prosecuted and tried by the federal supreme court, and for those committed jointly with the President of the Republic, by the authority competent to judge this latter.

Chapter V.—The responsibility of the President.

ART. 53. The President of the United States of Brazil shall be brought to trial and judgment, after the Chamber of Deputies shall have decided that he should be tried on the charges made against him, in the federal supreme court, in the case of common crimes, and in those of responsibility, in the Senate.

Sole paragraph.—As soon as it shall be decided to try him on the charges brought, the President shall be suspended in the exercise of the duties of his office.

ART. 54. Crimes of responsibility on the part of the President of the Republic are such as are directed against—

(1) The political existence of the Union.
(2) The Constitution and the form of the Federal Government.
(3) The free exercise of the political powers.
(4) The legal enjoyment and exercise of political or individual rights.
(5) The internal security of the country.
(6) The purity of the administration.
(7) The constitutional keeping and use of the public funds.
(8) The financial legislation enacted by the Congress.

§ 1. These offenses shall be defined in a special law.

§ 2. Another law shall provide for the charges, the trial, and the judgment.

§ 3. Both these laws shall be enacted in the first session of the first Congress.

SECTION 3.—THE JUDICIARY.

ART. 55. The judicial power of the Union shall be lodged in a federal supreme court, sitting in the capital of the Republic, and as many inferior federal courts and tribunals, distributed through the country, as the Congress shall create.

ART. 56. The federal supreme court shall be composed of fifteen justices, appointed under the provisions of article 48, No. 12, from among the oldest thirty citizens of well-known knowledge and reputation who may be eligible to the Senate.

ART. 57. The federal justices shall hold office for life, being removable solely by judicial sentence.

§ 1. Their salaries shall be fixed by law of the Congress, and can not be diminished.

§ 2. The Senate shall try the members of the federal supreme court for crimes of responsibility, and this latter the lower federal judges.

ART. 58. The federal courts shall choose their presidents from among their own members, and shall organize their respective clerical corps.

§ 1. In these corps the appointment and dismissal of the respective clerks, as well as the filling of the judicial offices in the respective judicial districts, shall belong to the presidents of the respective courts.

§ 2. The President of the Republic shall appoint from among the members of the federal supreme court the attorney-general of the Republic, whose duties shall be defined by law.

ART. 59. To the federal supreme court shall belong the duty of—

(1) Trying and judging by original and exclusive jurisdiction—

(*a*) The President of the Republic for common crimes, and the cabinet ministers in the cases specified in article 52.

(*b*) The ministers of the diplomatic corps for common crimes and those of responsibility.

(*c*) Cases and disputes between the States and the Union, or between the States one with another.

(*d*) Disputes and claims between foreign states and the Union, or between foreign nations and the States.

(*e*) Conflicts between the federal courts one with another, or between these and those of the States, as well as those between the courts of one State and those of another.

(2) Deciding, on appeal, questions pronounced upon by the lower federal courts and tribunals, as well as those mentioned in § 1 of the present article and in article 60.

(3) Reviewing the proceedings of finished trials, under the provisions of article 81.

§ 1. Decisions of State courts in last appeal can be carried to the federal supreme court—

(*a*) When the validity or application of the federal laws or treaties is called in question and the decision of the State court shall be against the same.

(*b*) When the validity of laws or acts of the governments of the States in respect to the Constitution or of the federal laws is contested and the State court shall have decided in favor of the validity of the acts or laws in question.

§ 2. In the cases which involve the application of the laws of the States, the federal court shall consult the jurisprudence of the local tribunals, and, *vice versa*, the State court shall consider that of the federal tribunals when the interpretation of the laws of the Union is involved.

ART. 60. It shall belong to the federal courts to decide—

(*a*) Cases in which the plaintiff or the defendant shall rest the case on some provision of the federal Constitution.

(*b*) All suits brought against the Government of the Union or the national treasury based on constitutional provisions, on the laws and regulations of the executive power, or on contracts made with the said Government.

(*c*) Suits arising from compensations, claims, indemnification of damages, or any others whatsoever brought by the Government of the Union against private individuals, and *vice versa*.

(*d*) Litigations between a State and the citizens of another, or between citizens of different States having differences in their laws.

(*e*) Suits between foreign states and Brazilian citizens.

(*f*) Actions begun by foreigners, and based either on contracts with the Federal Government or on conventions or treaties of the Union with other nations.

(*g*) Questions of maritime law and navigation, whether on the sea or on the rivers and lakes of the country.

(*h*) Questions of international law, whether criminal or civil.

(*i*) Political crimes.

§ 1. Congress is forbidden to commit any part of the federal jurisdiction to the State courts

§ 2. Sentences and orders of the federal judges will be executed by federal court officers, and the local police shall assist them when called upon by the same.

ART. 61. The decisions of the State courts or tribunals in matters within their competence shall put an end to the suits and questions, except as to (1) habeas corpus, or (2) effects of a foreigner deceased in cases not provided for by convention or treaty. In such cases there shall be voluntary recourse to the federal supreme court.

ART. 62. The State courts shall not have the power to intervene in questions submitted to the federal tribunals, or to annul, alter, or suspend the sentences or orders of these latter; and, reciprocally, the federal judiciary can not interfere in questions submitted to the State courts, or annul, alter, or suspend their decisions or orders, except in the cases provided in this Constitution.

TITLE II.—THE STATES.

ART. 63. Each State shall be governed by the constitution and laws which it shall adopt, respect being observed for the constitutional principles of the Union.

ART. 64. The unexplored mines and wild lands lying within the States shall belong to these States respectively; and to the Union only as much territory as may be necessary for the defense of the frontiers, for fortifications, military works, and federal railways.

Sole paragraph.—The national properties, not necessary for the service of the Union, shall pass to the domain of the States in whose territory they may be situated.

ART. 65. The States shall have the right to—

(1) Conclude agreements and conventions among themselves, if such be not of a political character. (Article 48, No. 16.)

(2) Exercise in general any and every power or right not denied expressly by the Constitution, or implicitly in its express terms.

ART. 66. It is forbidden to the States to—

(1) Refuse to recognize public documents of the Union, or of any of the States, of a legislative, administrative, or judicial character.

(2) Reject the currency or notes issued by banks, which circulate by act of the Federal Government.

(3) Make or declare war, one with another, or make reprisals.

(4) Refuse the extradition of criminals demanded by the justice of other States, or of the Federal District, in conformity with the laws of Congress which relate to this subject. (Article 41, No. 32.)

ART. 67. Save the restrictions specified in the Constitution, and the federal laws, the Federal District shall be governed directly by the municipal authorities.

Sole paragraph.—Expenses of a local character in the capital of the Republic must be provided for exclusively by the municipal authorities.

TITLE III.—THE MUNICIPALITY.

ART. 68. The States shall organize themselves in such a manner as to assure the autonomy of the municipalities in everything that concerns their peculiar interests.

TITLE IV.—BRAZILIAN CITIZENSHIP.

SECTION I.—QUALIFICATIONS.

ART. 69. The following shall be Brazilian citizens:

(1) Natives of Brazil, though of foreign parentage (father), provided he be not in the service of his nation.

(2) Sons of a Brazilian father, and illegitimate sons of a Brazilian mother, born in foreign parts, if they take up their residence (domicile) in the Republic.

(3) Sons of a Brazilian father who may be in another country in the service of the Republic, although they do not make their domicile in Brazil.

(4) Foreigners, who, being in Brazil on the 15th of November, 1889, shall not declare, within 6 months from the time when the Constitution enters into force, their desire to preserve their original nationality.

(5) Foreigners who possess property (real estate) in Brazil and are married to Brazilian women, or have Brazilian children, provided they reside in Brazil, unless they shall declare their intention of not changing their nationality.

(6) Foreigners naturalized in any other way.

ART. 70. Citizens of more than 21 years of age, and registered according to law, shall be electors.

§ 1. The following shall not be registered as electors for federal or State elections:

(1) Beggars.

(2) Persons ignorant of the alphabet.

(3) Soldiers on pay, except alumni of the military schools of higher instruction.

(4) Members of monastic orders, companies, congregations, or communities of whatsoever denomination, who are subject to vows of obedience, rule, or statute, which implies the surrender of individual liberty.

§ 2. Citizens who can not be registered shall not be eligible.

ART. 71. The rights of the Brazilian citizen can be suspended or lost only in the following cases:

§ 1. The rights may be suspended—

(*a*) For physical or moral incapacity.

(*b*) For criminal conviction, during the operation of the sentence.

§ 2. They may be lost—

(*a*) By naturalization in a foreign country.

(*b*) By acceptance of employment or pension from a foreign power, without permission of the federal executive.

§ 3. The means of reacquiring lost rights of the Brazilian citizen shall be specified by federal law.

SECTION II.—DECLARATION OF RIGHTS.

ART. 72. The Constitution secures to Brazilians and foreigners residing in the country the inviolability of their rights touching individual liberty, and security, and property, in the following terms:

§ 1. No person shall be forced to do, or leave undone, anything whatever, except by virtue of law.

§ 2. Before the law all persons are equal. The Republic does not recognize privileges of birth, or titles of nobility, and abolishes all existing honorary orders, with all their prerogatives and decorations, as well as all hereditary and conciliar titles.

§ 3. All persons and religious professions may exercise, publicly and freely, the right of worship, and may associate themselves for that purpose, acquire property, observance being had to the provisions of the common law.

§ 4. The Republic recognizes only the civil marriage, the celebration of which shall be gratuitous.

§ 5. The cemeteries shall be secular in character, and be managed by the municipal authorities, being free to all religious sects for the exercise of their respective rites as regards their members, provided they do not offend public morals or the laws.

§ 6. The instruction given in the public institutions shall be secular.

§ 7. No sect or church shall receive official aid, nor be dependent on, nor connected with, the Government of the Union, or of the States.

§ 8. All persons have the right of free association and assembly, without arms; and the police force shall not intervene, except to maintain the public order.

§ 9. Any person whatsoever shall have the right to address, by petition, the public powers, denounce abuses of the authorities, and appeal to the responsibility of the accused.

§ 10. In time of peace any person may, without passport, enter or leave the territory of the Republic, with his fortune and goods, whenever and however he may choose.

§ 11. The house is the inviolable asylum of the person; no one can enter it at night without the consent of the inhabitant, except to aid the victims of a crime or disaster; nor by day, unless in the cases and in the form prescribed by law.

§ 12. The expression of opinion shall be free, in respect to whatever subject, through the press or through the tribune, without subjection to censorship, each one being responsible for the abuses he may commit, in the cases and in the form prescribed by law. Anonymous publications are forbidden.

§ 13. Cases of *flagrante delicto* alone excepted, no arrest shall be made, unless after declaration of the charge (save in cases determined by law), and by written order of the competent authorities.

§ 14. No person shall be kept in prison without charge formally made, save the exceptions mentioned in the law, or taken to prison, or detained there, if he give bail, in cases where such is lawful.

§ 15. No person shall be condemned, except by competent authority, and in virtue of law already existing and in the form prescribed by it.

§ 16. The law shall secure to the accused the fullest defense by all the recourses and means essential to the same, including the notice of the charge, delivered to the prisoner within 24 hours and signed by the proper authority along with the names of the accusers and witnesses.

§ 17. The rights of property are maintained in all their plentitude, and no disappropriation shall be made, except from necessity or public utility, and indemnity shall, in such cases, be made beforehand. Mines belong to the owners of the soil, under the limitations to be established by the law to encourage the development of this branch of industry.

§ 18. Correspondence under seal is inviolable.

§ 19. No penalty shall extend beyond the person of the delinquent.

§ 20. The penalty of the galleys is abolished, as also judicial banishment.

§ 21. The death penalty is abolished, except in the cases under military law in time of war.

§ 22. The habeas corpus shall always be granted when the individual suffers violence or compulsion, through illegality or abuse of power, or considers himself in imminent danger of the same.

§ 23. There shall be no privileged tribunal, except in such cases as, from their nature, belong to special courts.

§ 24. The free exercise of any profession, moral, intellectual, or industrial, is guarantied.

§ 25. Industrial inventions belong to their authors, to whom the law will grant a temporary privilege, or to whom the Congress will give a reasonable premium, when it is desirable to make the invention public property.

§ 26. To authors of literary and artistic works is guarantied the exclusive right of reproducing them through the press or by any other mechanical process, and their heirs shall enjoy this same right during the space of time determined by the law.

§ 27. The law shall also secure the rights of property in trade-marks.

§ 28. No Brazilian can be deprived of his civil and political rights on account of religious belief or duty, nor be exempted from the performance of any civic duty.

§ 29. Those who shall claim exemption from any burden imposed by the laws of the Republic on its citizens, on account of religious belief, or who shall accept any foreign decoration or title of nobility, shall lose all their political rights.

§ 30. No tax of any kind shall be collected except in virtue of a law authorizing the same.

§ 31. The institution of trial by jury is maintained.

ART. 73. Public offices, civil or military, are accessible to all Brazilian citizens, always observing the conditions of particular capacity fixed by the law; but the accumulation of remunerations is forbidden.

ART. 74. Commissions, offices, and positions not subject to removal are guarantied in all their plenitude.

ART. 75. Only such public officials as have become infirm in the service of the nation shall be retired on pay.

ART. 76. Officers of the army and navy shall lose their commissions only in case of condemnation to more than 2 years in prison, pronounced in judgment by the competent tribunals.

ART. 77. There shall be a special court for the trial of military offenses committed by soldiers or marines.

§ 1. This court shall be composed of a supreme military tribunal, whose members shall hold their seats for life, and of the councils necessary for the formulation of the charge and the judgment of the crimes.

§ 2. The organization and powers of the supreme military tribunal shall be determined by law.

ART. 78. The enumeration of the rights and guaranties expressed in the Constitution does not exclude other guaranties and rights, not enumerated, but resulting from the form of government established and principles settled by said Constitution.

TITLE V.—GENERAL PROVISIONS.

ART. 79. The citizen vested with the functions of either of these three federal powers shall not exercise those of another.

ART. 80. Any part of the territory of the Union may be declared in state of siege, and the constitutional guaranties suspended for a determined period, whenever the security of the Republic so demands in case of foreign aggression or intestine disturbance. (Article 34, No. 21.)

§ 1. The power to execute the above provision may, if the Congress be not in session and the country be in imminent peril, be used by the federal executive. (Article 48, No. 15.)

§ 2. In the exercise of this power, during the state of siege, the executive shall be restricted to the following measures of repression against persons:

(1) To their detention in a place not allotted to persons accused of common crimes.

(2) To banishment to other parts of the national territory.

§ 3. As soon as the Congress shall have assembled, the President of the Republic shall make a report to that body of the exceptional measures which may have been taken.

§ 4. The authorities who shall have ordered such measures shall be responsible for any abuses that may have been committed.

ART. 81. In criminal cases, trials concluded may be reviewed at any time, in favor of the condemned parties, by the federal supreme court, for the purpose of correcting or of confirming the sentence.

§ 1. The law shall determine the cases and the form of such revision, which may be asked for by the condemned, by any one of the people, or by the attorney-general of the Republic, *ex officio.*

§ 2. In such revision the penalties imposed by the sentence reviewed can not be increased.

§ 3. The provisions of the present article are applicable to military trials.

ART. 82. Public officers shall be strictly responsible for the abuses and omissions that occur in the exercise of the duties of their offices, as well as for the indulgences and negligences for which they do not hold their subordinates responsible.

Sole paragraph.—They shall all be bound by formal obligation, on taking possession of their offices, to discharge the lawful duties of the same.

ART. 83. Until revoked, the laws of the *ancien régime* shall remain in force, in as far as they are not, explicitly or implicitly, contrary to the system of government established by the Constitution, and to the principles laid down in the same.

ART. 84. The Federal Government guaranties the payment of the public debt, both internal and foreign.

ART. 85. The officers of the line and of the annexed classes of the navy shall have the same commissions and advantages as those of the army of corresponding rank.

ART. 86. Every Brazilian shall be bound to military service in defense of the country and the Constitution, as provided by the federal laws.

ART. 87. The federal army shall be made up of contingents which the States and the Federal District are bound to furnish, constituted in conformity with the annual law regulating the number of the forces.

§ 1. The general organization of the army shall be determined by a federal law, in accordance with No. 18 of article 34.

§ 2. The Union shall have charge of the military instruction of the troops and of the higher military instruction.

§ 3. Compulsory recruiting for military purposes is abolished.

§ 4. The army and navy shall be made up by volunteering without bounties, or, if this means be not sufficient, by lot previously determined.

The crews for the navy shall be made up from the naval school, the schools of marine apprentices, and the merchant marine, by means of lot.

ART. 88. In no case, either directly or indirectly, alone or in alliance with another nation, shall the United States of Brazil engage in a war of conquest.

ART. 89. A tribunal of accounts shall be instituted for the auditing of the receipt and expense accounts and examining into their legality before their presentation to the Congress. The members of this tribunal shall be appointed by the President of the Republic, with the approval of the Senate, and can lose their seats only by sentence.

ART. 90. The Constitution may be amended, at the initiative of the national Congress, or of the legislatures of the States.

§ 1. An amendment shall be considered as proposed, when, having been presented by one-fourth, at least, of the members of either house of the Congress, it shall have been accepted in three readings (discussions) by two-thirds of the votes in both houses of the Congress, or when it shall have been asked for by two-thirds of the States represented, each one by a majority of the votes of its legislature, said votes to be taken in the course of 1 year.

§ 2. The proposed amendment shall be considered approved, if, in the following year, after three discussions, it shall have been adopted by a majority of two-thirds of the votes in the two houses of Congress.

§ 3. The amendment adopted shall be published with the signatures of the presidents and clerks of the two chambers, and be incorporated into the Constitution as a part of the same.

§ 4. No project having a tendency to abolish the federative republican form, or the equal representation of the States in the Senate, shall be admitted for consideration in the Congress.

ART. 91. This Constitution, after approval, shall be promulgated by the president of the Congress and signed by the members of the same.

TEMPORARY PROVISIONS.

ARTICLE 1. After the promulgation of this Constitution, the Congress, in joint assembly, shall choose consecutively, by an absolute majority of votes in the first balloting, and, if no candidate shall receive such, by a plurality in the second balloting, the President and Vice President of the United States of Brazil.

§ 1. This election shall be in two distinct ballotings, for the President and Vice President respectively, the ballots for President being taken and counted, in the first place, and afterwards for Vice President.

§ 2. The President and Vice President, thus elected, shall occupy the Presidency and Vice Presidency of the Republic during the first Presidential term.

§ 3. For said election there shall be no incompatibilities admitted.

§ 4. As soon as said election shall be concluded, the Congress shall consider as terminated its mission in joint session and, separating into Chamber and Senate, shall enter upon the exercise of its functions as defined by law, on the 15th of June of the present year, and can not in any case be dissolved.

§ 5. In the first year of the first legislature, among its preparatory measures, the Senate shall designate the first and second third of its members, whose term of office shall cease at the end of the first and second 3-year terms.

§ 6. The discrimination shall be made in three lists, corresponding to the three classes, alloting to them the senators of each State and of the Federal District according to the number of votes received by them respectively, so as to allot to the third for the last 3 years the one receiving the highest number of votes in the Federal District and in each State, and to the other two-thirds the remaining two names in the order of the number of votes received by them respectively.

§ 7. In case of tie, the oldest shall be preferred, and if the ages are equal, the choice shall be made by lot.

ART. 2. The State which, by the end of the year 1892, shall not have adopted its constitution, shall, by act of the federal legislative power, be placed under that of one of the other States, which it shall judge most suitable, until the State thus subjected to said constitution shall amend it in the manner provided in the same.

ART. 3. As fast as the States shall be organized, the Federal Government shall deliver to them the administration of the services which belong to them, and shall settle the responsibility of the federal administration in all that relates to said services and to the payment of the respective officials.

ART. 4. While, during the period of organization of their services, the States shall be engaged in regulating their expenses, the Federal Government shall, for this purpose, open special credits to them, under conditions determined by the Congress.

ART. 5. In the States which shall become organized the classification of the revenues established in the Constitution shall enter into force.

ART. 6. In the first appointments for the federal magistracy and for that of the States, the preference shall be given to the justices and magistrates of the higher courts of the greatest note. Such as are not admitted into the new organization of the judiciary, and have served 30 years, shall be retired on full pay. Those who have served for less than 30 years shall continue to receive their salaries until they shall be employed, or retired with pay corresponding to their length of service. The payment of salaries of magistrates retired or set aside shall be made by the Federal Government.

ART. 7. To D. Pedro de Alcantara, ex-Emperor of Brazil, a pension is granted, to run from the 15th of November, 1889, sufficient to guaranty him a decent subsistence during his lifetime. The Congress, at its first session, shall fix the amount of said pension.

ART. 8. The Federal Government shall acquire for the nation the house in which Dr. Benjamin Constant Botelho de Magalhães died, and shall have placed on it a memorial slab in memory of that great patriot, the founder of the Republic.

Sole paragraph.—The widow of the said Dr. Benjamin Constant shall have, during her lifetime, the usufruct of the said house.

We order, then, all the authorities to whom the recognition and execution of this Constitution belongs, to execute it and have it executed and observed faithfully and fully in all its provisions.

Let the same be published and observed throughout the territory of the nation.

Hall of the sessions of the National Constitutional Congress, in the city of Rio de Janeiro, in the year 1891, and the third of the Republic.

TARIFF CHANGES AND TRADE IN SENEGAL.

REPORT BY CONSUL STRICKLAND, OF GORÉE-DAKAR.

I have the honor to bring to your notice that on the first day of this current year a new schedule of duties began to take effect in this colony, some of the provisions of which are not favorable to foreigners.

Previous to January 1, 1891, the duties levied on most articles of merchandise, foreign and French alike, were at the rate of 5 per cent. ad valorem, the value not always being estimated from invoices, but according to the "mercuriale" periodically fixed by a commission appointed for the purpose. This rate of 5 per cent. still applies to articles of French production, whether manufactured or otherwise, but 7 per cent. additional is now levied on most articles of foreign production.

There are a few articles the duties on which are arranged in a manner something different, and leaf tobacco is one. The duty on this article has been raised from 15 centimes to 45 centimes per kilogramme, and in anticipation of this great change those merchants here who could supplied themselves largely from Europe during November and December, thus saving to themselves for months to come the augmentation of duty.

Another article which does not come under the first-mentioned arrangement is a kind of blue cotton fabric, called "guinea," of which enormous quantities are used in Africa. This has been produced hitherto in England and in Belgium and is an important branch of industry in both those countries. On this the new duties seem quite prohibitive; while only 2½ centimes per metre are to be levied on guinea, if of French manufacture, 31 centimes per metre, if of foreign manufacture.

The duties on other articles not included in the 7 per cent. schedule (12 per cent. altogether) are as follows: Munitions of war, 15 per cent.; cocoanuts, 50 centimes per kilogramme.

That the new duties, especially if they are continued long without modification, will somewhat injure the rapidly growing American trade in this colony there can be no doubt. Some articles have been introduced against much prejudice and opposition, but have steadily won their way into favor in spite of all. A difference of 7 per cent. in price against many of them, however, could not at present be borne, and such articles will undoubtedly be pretty much withheld from this market. But articles which France does not produce must, after present stocks get reduced, commence to come again, though less by the direct route and in somewhat reduced quantities. It is the natives, of course, who will have to pay the extra-laid duties, hence the less quantity that will of necessity be imported. And the withdrawal of freight from the small sailing vessels which now come direct must cause some of them to be withdrawn from the business, and so diminish the number of trips. Sudden calls for limited quantities of merchandise which represent value, like leaf tobacco, will then have to be met by the expensive steam route via Liverpool, thus throwing a large share of the carrying trade that will be left into the hands of foreign shipowners.

To illustrate exactly how the new duties are likely to affect Americans, we will take the case of two vessels which arrived in this colony in November last: the *Frank M. Howes* of 169 tons with about 100,000 feet of hard pine lumber from Fernandina, Fla., and the *Kocheco* of 353 tons from New York with 1,275 barrels of flour, 996 barrels of bread, 500 barrels of cotton-seed oil, and 100 half hogsheads of tobacco, with some other articles not necessary to mention, the quantity of each being small. The new duties would not have prevented the voyage of the *Frank M. Howes*, because hard pine lumber is not protected in France; but flour, bread, and oil, which constituted the bulk of the cargo of the *Kocheco*, are staples of that country almost as much as they are of ours, and a discriminating duty of 7 per cent. against them would have been fatal to the voyage of the *Kocheco*, whose tobacco might have come by steam via Liverpool—at more expense, to be sure—but then the *Kocheco* could not have earned a freight with the tobacco alone.

Some of the causes which have induced the French Government to impose discriminating duties against foreign productions are not far to seek. It has at great trouble and expense established a respect for order among the natives, so that life and property are probably as safe here now as in any country.

It has assisted in building a railroad, connected the colony with the outside world by cables, afforded excellent mail and commercial facilities, but the commerce developed does not inure, as it seemingly should, to the benefit of France. The oleaginous products of the country are mostly exported to France, but the French have to pay money for them, while this money is used in purchasing goods procured in the first place from foreigners. England has hitherto furnished most of the cotton fabrics, for the principal reason that Manchester manufacturers will cater to every whim and prejudice of the natives, while French and American manufacturers will not. Germany has at present a monopoly of the liquor traffic, and the United States, since it lost that, has been making up in many other directions. The French are simply maneuvering for what they consider a fair share of the trade of their own colony and propose to exact tribute of all competitors until this is accomplished. It is rumored here that the new arrangement may not be of long continuance; but, however this shall prove, it is certain, I think, to endure long enough to greatly modify the conditions of trade now existing between this country and the United States.

Regular and direct steam communication with New York would go far, I think, to overcome the discriminating duty of 7 per cent., which Americans would keenly feel on some articles now exported by them at great expense for freight and commissions. If such a line could once be stimulated into existence, it would speedily engross all the freight which now comes this way, either direct or otherwise, and through the efforts of American commercial travelers the goods of every American manufacturer would be presented here at their best without the favor of, and without paying a profit of perhaps more than 7 per cent. to, other less interested middlemen.

It is said by the colonists that Americans might manage matters so as to feel the discriminating duties less, perhaps, than other foreigners, and this seems to me true. The great American staples of lumber, petroleum, cotton, cards, tobacco, and cheap furniture will not be seriously affected by the change; and regular steam communication, by enabling flour to be sold in small, fresh lots previous to arrival, thus saving handling and storage expenses, would admit this and many other articles in spite of the present duty, which could not be the case with guinea and many valuable articles exported here by other foreigners, because their goods have come here under the best conditions possible for many years.

Within the last few years I have been besieged with letters from American manufacturers prospecting for an outlet for their goods, but I have been obliged to reply that, owing to the lack of regular and direct steam communication, commercial transactions, the same as have for a long time existed between European manufacturers and dealers here, are quite impracticable.

The expenses of double freight and transshipment in Liverpool would kill any extensive trade attempted in that way.

But in this connection I am only mentioning the desirability of regular and direct steam communication as a means of overcoming the present strained condition of trade. It is also desirable on other grounds, which I propose to treat of fully in a later dispatch.

Concerning the policy of imposing discriminating duties on the goods of foreigners, because they have obtained control of certain parts of the African coast under French control, and the probability that this policy may be imitated by other European nations, among which the greater part of this immense continent is now divided up, it would seem that it can hardly be a matter of indifference to Americans how matters are being manipulated here in the interest of European claimants.

The tendency in manufacturing being ever toward overproduction, does it not follow that the United States, as well as Europe, will soon need the most extensive outlets possible for her manufactured goods? But how can she long have them, or commerce either, if claims in regard to distant new countries are conceded which might make trade with them in products not peculiarly American well-nigh impossible?

These outlets, for obvious reasons, it would seem, should be sought most among people who will not thus manufacture for ages to come. Africa, which might embrace three countries like the United States within its borders and have room for France thrown in, seems much too large a country of the desirable kind to be altogether veiled from our commercial horizon.

PETER STRICKLAND,
Consul.

UNITED STATES CONSULATE,
Gorée-Dakar, February 3, 1891.

FOREIGN GOLD IN THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

On the 15th of November, 1881, the Argentine Congress passed a law fixing the monetary unit of the Argentine Republic and providing for the coinage of money at the national mint. The seventh article of the law provided as follows:

> ARTICLE 7. The legal circulation of all foreign gold coins shall be prohibited as soon as the gold coinage of the national mint shall reach $8,000,000, and the legal circulation of all foreign silver coins shall be prohibited so soon as the silver coinage of the national mint shall reach $4,000,000. So soon as the coinage of gold and silver shall have reached these amounts, the executive of the nation shall issue a decree fixing a time for the following provisions of law to go into effect, after which all acts, payments, and contracts must be expressed in national money.

On the 5th instant the director of the mint notified the Government that up to that date $30,733,830 in gold coin and $2,805,835 in silver coin had been turned out from the mint, and President Pelligrini thereupon issued the following decree:

> Having been notified officially that the Argentine mint has coined to this date 6,146,551 argentines ($5 pieces) and 430 half argentines ($2.50 pieces), with a total value of $30,733,830 (pesos), and considering that the case provided for in article 7 of the coinage law has been reached, the President of the Republic decrees as follows:
>
> ARTICLE 1. At the expiration of 3 months, dating from this day, there shall be demonetized all foreign gold coin, and its legal circulation is hereby prohibited in the Argentine Republic.
>
> ART. 2. Let this be communicated, etc.
>
> PELLIGRINI.
> V. F. LOPEZ.

What the effect of this decree will be remains to be seen. The great bulk of the gold in the country is of foreign coinage, and if its circulation is to be prohibited it must work considerable embarrassment. I assume, however, that this demonetization of foreign gold means no more than that it is no longer legal tender in the payment of debts, but that its value must be stated in Argentine gold, and that it will still be permitted to buy and sell it as an article of merchandise. Indeed, Dr. Pelligrini, the present President, was a Senator in the Argentine Congress at the time the coinage law of 1881 was passed and took part in the discussion. He stated his view of the effect of the law as follows:

> Those who suppose that this law will prevent a person from purchasing in foreign money confound the price with the thing. What is prohibited is simply the price stipulated in contracts. This must not be in foreign money. If you wish to buy or sell £1,000 for its equivalent price in national money, the foreign money will represent the subject of the contract. What the law requires is that when money is the price it must be national money, but it does not prevent the buying or selling of Bolivian silver, English pounds sterling, or any other foreign coins. The effect of the law is analogous to that which established the metrical system here and which prohibits legal proceedings based on any other measure.

So I assume that after the date named in the decree, while foreign money can be bought or sold as merchandise, all transactions must be expressed and represented in the money of the country.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, December 13, 1890.

EMIGRATION FROM AMSTERDAM TO THE UNITED STATES.

REPORT BY CONSUL SCHLEIER.

The total number of persons—men, women, and children—who emigrated to the United States via the port of Amsterdam during the year 1890 was 6,646. They consisted of 4,149 men, 1,509 women, 767 children, and 221 infants.

The following table shows their nationality:

Nationality.	Number.	Nationality.	Number.
Netherlanders	1,288	Swedes	37
Germans	1,677	Danes	154
English	533	Americans	18
French	24	Turks	13
Belgians	64	Luxemburgers	52
Swiss	100	Finlanders	12
Italians	154	Brazilians	2
Austrians	1,350	Roumanians	8
Hungarians	374	Spaniards	8
Russians	583	Total	6,646
Poles	73		
Norwegians	122		

Table showing the proportion each province contributed to the emigration in 1890.

Provinces.	Men.	Women.	Children 1 to 10 years old.	Infants.	Total.
Groningen	91	57	33	12	193
Friesland	160	110	63	11	344
Drenthe	10	4	3	1	18
Overyssel	19	13	10	2	44
Gelderland	61	27	25	5	118
Utrecht	6	2	....	....	8
North Holland	149	89	82	20	340
South Holland	25	10	6	2	43
Zealand	85	55	30	5	175
North Brabant	1	1	....	....	2
Limburg	2	1	....	....	3
Total	609	369	252	58	1,288

Table showing the emigration in each month of the year 1890 from Amsterdam to the United States.

Months.	Men.	Women.	Children 1 to 10 years old.	Infants.	Total.
January	186	69	31	8	294
February	160	62	26	8	256
March	384	132	68	16	600
April	426	189	135	28	778
May	510	261	180	54	1,005
June	251	82	44	11	388
July	215	63	20	5	303
August	310	121	69	20	520
September	384	112	36	11	543
October	479	143	42	12	676
November	671	227	98	43	1,039
December	173	48	18	5	244
Total	4,149	1,509	767	221	6,646

List of the occupations of emigrants who embarked at the port of Amsterdam for the United States during the year 1890.

Occupation.	Number.	Occupation.	Number.
Actors	1	Locksmiths	7
Bakers	68	Machinists	25
Barbers	14	Maidservants	24
Barkeepers	4	Masons	31
Basket-makers	2	Merchants	209
Blacksmiths	49	Millers	24
Boatmen	3	Milliners	2
Bookbinders	3	Miners	17
Bookkeepers	5	Musicians	8
Book-printers	2	Notaries	1
Brewers	16	Opticians	1
Brush-makers	4	Painters	11
Butchers	62	Paper-hangers	4
Cabinet-makers	26	Photographers	7
Carpenters	94	Plasterers	2
Carriage-makers	3	Plumbers	2
Cigar-makers	20	Preachers	1
Clerks	15	Reporters	2
Coachmen	8	Saddlers	3
Cooks	17	Sculptors	4
Coopers	8	Seamen	73
Coppersmiths	1	Seamstresses	2
Commissionairs	4	Servants	16
Decorators	1	Shepherds	26
Diamond cutters	14	Shoemakers	72
Druggists	1	Soap-boilers	1
Dyers	14	Stonecutters	11
Engineers	9	Students	2
Engravers	1	Tailors	120
Farmers	991	Tanners	12
Gardeners	24	Teachers	4
Gas-fitters	2	Tinsmiths	12
Glass blowers	5	Travelers	2
Goldsmiths	2	Trunk-makers	4
Governesses	1	Turners	6
Hatters	3	Typesetters	4
Hair-dressers	5	Waiters	20
Ironmongers	3	Watchmakers	7
Laborers	1,471	Weavers	30
Lithographers	2	All other, not specified	29

Emigrants with and without any trade or occupation are classified as follows: With trade or occupation, 3,816; without trade or occcupation—men, 362; women, 1,480; children, 767; infants, 221.

EMIGRATION TO SOUTH AMERICA.

The total number of persons who emigrated from the port of Amsterdam to South America was 251, of whom there were 153 men, 50 women, 41 children from 1 to 10 years, and 7 infants. They consisted of 104 Netherlanders, 28 Germans, 25 Britons, 34 Belgians, 13 Americans, 3 Austrians, 28 Italians, 2 Danes, 10 Russians, 2 Roumanians, and 2 Spaniards. The number of these emigrants who are stated to have any trade or occupation was 144; the others consisted of 9 men, 50 women, 41 children, and 7 infants. Of the emigrants reported as having some occupation, there were 37 farmers, 25 farm and other laborers, 20 merchants, and 12 carpenters.

T. M. SCHLEIER,
Consul.

UNITED STATES CONSULATE,
Amsterdam, February 28, 1891.

THE DOCKS OF HULL.

REPORT BY CONSUL DANIELS.

TRADE AND POPULATION.

The port of Hull, or Kingston-upon-Hull, properly speaking, is the third port in the United Kingdom so far as the value of its import and export trade is concerned. Taking the year 1888, the imports and exports of Liverpool amounted to £194,422,336; London (including Queensborough), £188,394,723; Hull, £38,204,112; Glasgow, £25,325,572; Harwich, £16,910,134; Southampton, £14,589,797; Grimsby, £12,157,478; Leith, £11,982,965; Newcastle, £11,621,639; Newhaven, £11,592,813; Goole, £9,346,951; Bristol, £8,627,688; and Cardiff, £7,039,067.

The population of Hull, according to the latest estimate, is 213,833; the area of the borough is 7,901 acres, and its ratable value is £700,279.

THE ALEXANDER DOCK.

Hull possesses a magnificent system of docks, second to none in the country, the most important being the Alexander dock, belonging the Hull and Barnsley Railway and Dock Company, which company was formed in 1880 in order to free the mercantile community of Hull from the monopoly enjoyed by the Hull Dock Company and the Northeastern Railway Company. The total tonnage of the port in 1890 was 3,156,041 tons, and of this amount 2,329,427 tons went into the docks of the Hull Dock Company and 826,614 tons into the Alexander dock. The increase of the tonnage of the port over 1889 was 88,743 tons. Hull is rapidly increasing as a coal port, and during last year the quantity of coal shipped by the Hull Dock Company was 931,130 tons, while the Hull and Barnsley Company shipped about 500,000 tons.

The Alexander dock, which is situated to the east of the town on the fore shore of the River Humber, was commenced in January, 1881, and opened for traffic in July, 1885, the work of construction having only occupied 6 weeks more than the estimated time (the work having been stopped for nearly 5 months, owing to financial reasons), notwithstanding the execution of a considerable amount of work beyond that contemplated in the original contract. The actual work comprised a dock of 46½ acres, with 2 miles of dock walls from 52 to 62 feet in height, two large graving docks connected with the larger dock, a lock 550 feet long and 85 feet wide, dredging an entrance through the Hebbles shoal, erecting pumping machinery, laying 12 miles of lines of way, the construction of sheds, and various minor works. As 152 acres of the site of the works, out of a total of 206 acres, were below high-water mark and extended considerably below low-water mark, the range at spring tides being 22½ feet, an embankment about 40 feet high and 6,000 feet long had to be constructed to reclaim the required fore shore. As the commencement of the permanent works could not be delayed till the completion of the reclamation embankment, temporary banks were formed to exclude the tide from the site of the north quay wall and graving docks, forming the innermost works, so that these works might be carried on during the progress of the outer bank. The river embankment was meanwhile being proceeded with by excavating a trench 20 feet wide and about 5 feet deep, with a Priestman steam grab along the line of the toe of the bank. This trench, which was carried down to hard gravel or clay, was filled with chalkstone deposited from small vessels. The bank was given a width of about 30 feet at the level of the river bed; above low water it was roughly formed to a slope of 2 to 1 on the face, and it was intended to back it with solid clay or other hard material. Great difficulty, however, was experienced in the carrying out of this project, and eventually a solid chalk embankment was decided upon, 80 feet wide at the river bed, with a deep-dredged trench 40 feet wide to receive the toe, the chalk being backed with stiff clay for 30 feet in width. This water-tight bank was executed without difficulty, and its seaward face was pitched with Barnsley fan stone to protect the chalk from disintegration by the weather.

The main embankment and a cofferdam in front of the lock entrance were sufficiently completed in June, 1882, for the tide to be excluded from the second reclamation, when the excavations within the reclaimed area were at once utilized for forming the third or eastern reclamation bank, and the tide was finally excluded from the whole site in November, 1882. The cofferdam was segmental in form, with a radius of 255½ feet, and 461 feet long, constructed of two rows of piles 6 feet apart with clay puddle between, the piles being 50 to 60 feet long and driven about 33 feet into the ground, the main piles reaching down to 54 feet below high water. Five sluice openings were made in the cofferdam to allow the tide to flow in and out till the completion of the dam. This part of the work was commenced in June, 1881, and completed in June, 1882, and contained 67,702 cubic feet of timber. As soon as the cofferdam was closed and the second reclamation made secure, the inner bank was broken through, and the excavations were pushed forward with the object of reaching the lock, and work was also commenced at the southern end of the lock and several other places. The southern portion of the site of the dock was covered with warp, or river mud, which was stiff and sticky inshore, but softer further out, and, though drying on the surface when reclaimed, remained quite soft below for a long time. This mud varies in thickness up to 27 feet, and below it beds of warp, sand, gravel, clay, and peat were met with in no definite order.

The roads over this thick bed of soft mud had to be laid with two and sometimes three thicknesses of close timber and sleepers, and the passage of a locomotive over these was accompanied by a distinct undulation. Two hydraulic navvies, built by Sir W. G. Armstrong & Co., were used on the works, and for these and other purposes the contractors were allowed to use the hydraulic engines of 300 indicated horse-power, which were afterwards to serve the dock.

Electric light was employed at night for expediting the work. The dock wall was designed to be founded 12 feet below the dock bottom, at which depth it was anticipated hard clay would be found. Where the clay was at a suitable level, the foundations were carried down to it in a trench timbered in the ordinary manner; but, as much of the clay was at a lower level, the foundations at these points were for the most part inclosed between sheet piling, tongued and grooved, and the walls founded at the designed level. The site for the graving docks was inclosed with grooved and tongued sheet piling driven into the clay, and the work commenced at the designed levels irrespective of the nature of the stratum reached. The foundations of the lock were designed to be laid 48½ feet below high water, or 32½ feet below the level of the mud. Piles 40 feet long were driven at the back of the trench and half timbers in front.

Several "blows" occurred during the construction of the lock, and they caused considerable difficulty; but the whole of the foundations were rendered secure in September, 1884. The lock is 85 feet wide and 550 feet long, having three pairs of gates, and it is subdivided by the middle pair into two locks 325 feet and 225 feet in length, which enables the lock to be used for moderate-sized vessels for long periods before and after high water without a great loss of water, a point of much importance, as the water level in the dock is principally maintained by pumping from a fresh-water stream.

The gates, which are 40 feet high and 50 feet wide, are of "green heart" and segmental in form, with each leaf constructed in three panels, and they were built on the works. There are no sluices in the gates, the filling and emptying of the lock being done through 5-foot culverts, two pairs of which are built in the lock walls at each sill at low-water level. The gates, capstans, and swing bridge are moved by hydraulic machinery. As the two outer sills are 1½ feet deeper than the inner one, the gates are made to correspond, and, whereas each leaf of the inner gates weighs 170 tons, each leaf of the outer pair weighs 176 tons. The roller path is of cast steel, most carefully and accurately bedded on granite.

The depth of water on the sills is scarcely ever less than 28 feet, and since the opening of the dock the greatest draft of any vessel that has entered has not exceeded 27 feet.

The dock walls were designed to be constructed with ashlar stone on the face and rubble chalk backing from dock bottom up to 14 feet below the coping. A strike of the masons, however, whilst the work was in progress led to the substitution of Portland cement concrete for the ashlar and chalk.

The upper portion of the wall, 14 feet high, was built of stone, with ashlar facework projecting 6 inches beyond the lower part of the wall, thus forming a fender and granite coping.

The graving docks were constructed of masonry throughout. The larger dock is 550 feet long on the blocks, but could take a vessel of somewhat larger keel. Its entrance is 65 feet wide, and, having a depth of 21½ feet at high water, it is available for larger vessels. The other is 500 feet long, with an entrance 60 feet wide. The pumping station for emptying the docks is placed between the two docks, and there is a 5-foot pipe culvert leading from the Holderness drain into a chamber at the north end of the building.

On the opposite side of this chamber is another culvert, fitted with a sluice valve to shut off the waters of the Holderness drain at any time; this culvert, in passing to the pump well, is joined by a transverse culvert from each graving dock. There are two vertical Gwynne centrifugal pumps, with 4-foot suctions, worked by direct-acting horizontal condensing engines, supplied with steam from six Lancashire boilers with Galloway tubes. Each pump, making 145 revolutions per minute, throws 31,250 gallons per minute, with a maximum difference of level of 21 feet.

A single pump empties the larger dock from high-water spring-tide level in 3¼ hours, and the two pumps working together can raise the water in the dock 1 foot in 3¼ hours.

Dredging forms a heavy charge in the maintenance of the old Hull docks, owing to the free access into them of the very muddy waters of the Humber near high water for 2 or 3 hours each tide, at tides approaching springs occasionally making up 3 feet difference of level. The deposit introduced in the docks from the Humber amounts sometimes to 1,250,000 tons of mud in the year, necessitating the employment of a large dredging plant for its removal.

To obviate as far as possible the necessity for this dredging in the Alexandra dock, fresh water is pumped up into the dock from the Holderness drain to maintain its level. This drain is a fresh-water stream, draining a large portion of the Holderness division of Yorkshire, which has its outfall adjacent to the Alexandra dock, and the pumps can raise 14,500,000 cubic feet of water from it in 24 hours, thus greatly benefiting the drainage of the surrounding low-lying country, as well as reducing the cost of maintenance of the dock.

The entrance channel was completed by July 16, 1885, when the first steamers entered the dock. The navigable channel of the Humber approaches close to the northern shore in front of Hull, but at the Alexandra dock the northern edge of the deep channel was 960 feet from the outer dock sill. A shoal known as the Hebbles extended half a mile above and 2 miles below the Alexandra dock, and to form the entrance channel 35 acres of this shoal were dredged away from an average depth of 3 to 6 feet down to 12 or 14 feet low-water spring tide.

A timber wharfing lines the side of the trumpet entrance to the lock and extends for a length of 300 feet up and down the river. It is constructed in "bayes" 10 feet apart generally and 3 feet only at the corners, braced transversely and longitudinally, and covered with a 5-inch decking.

The storage accommodation at the dock consists of 6 wooden warehouses, 2 brick warehouses, and 5 corrugated-iron warehouses. There is enormous accommodation for goods in transit and permanent storage accommodation for 65,000 quarters, together with large cellarage for oil and bacon. The dock is equipped with 3 hydraulic coal-shipping appliances similar to those in use in South Wales, capable of shipping 370 tons per hour; 1 100-ton steam crane, 1 25-ton steam crane, 1 15-ton hydraulic crane, 2 10-ton hydraulic cranes, 1 5-ton steam traveling crane, 1 3-ton steam traveling crane, 24 30-cwt. portable hydraulic cranes, 12 hydraulic jiggers, and 8 20-cwt. fixed hydraulic cranes.

The gross cost of the works was £1,355,392, or £12,147 per acre, including two graving docks and equipment. Without equipment the cost was £21,450 per acre. The total cost of the walls, including certain foundations for coal-hoisting and all the subsidiary works round the walls, was £312,224, or about £28 per lineal foot. The cost per superficial foot of the lock gates was 48*s*. The cost of the two graving docks, including the pumping station and pumps, was £130,800. The cost of the lock entrance, including gates, was £138,200, but this amount included all the cost of the "blow." The dock was designed and carried out by Mr. James Abernethy, past president, C. E., and Messrs. Oldham and Bohn, C. E., were the acting engineers at Hull; Mr. A. C. Hurtzic, C. E., was the resident engineer; Messrs. Lucas & Aird were the contractors.

THE HULL DOCK COMPANY.

The Dock Company at Kingston-upon-Hull (the old dock company) was incorporated by act of Parliament in the year 1774, its estate at present comprising eight docks and three timber ponds, having a total area of 410 acres, of which 270 acres are land and the remainder water.

The estate also includes 24 grain warehouses with a storage capacity for 340,000 quarters, 4 guano warehouses, 7 general storage warehouses, 2 graving docks; 2 patent slips, let to Earl's Shipbuilding and Engineering Company (limited); 4 quick-shipping coal tips and hoists, 14 cranes and machinery with a lifting capacity of from 5 to 45 tons each, 1 pair of sheerlegs with a lifting capacity of 100 tons, and 125 fixed power and hand cranes with a lifting capacity of from 1 to 10 tons each.

The company also possesses extensive deal yards, including those on the Citadel estate at the Victoria dock, the latter alone being 47 acres in extent; a dispatch warehouse specially constructed for the rapid discharge of East Indian and other grain and seed cargoes, an extensive fish platform at the St. Andrew's dock, and 72 acres of land westward of the St. Andrew's dock available for dock extension. The company has obtained powers to construct a new entrance to the Albert dock to accommodate the deepest-drafted vessels entering the port.

The following are particulars with regard to the Dock Company's estate:

Queen's dock.—Opened 1779; water area, 10 acres 1 rood 11 perches; depth of water on sill, average spring tides, 20 feet 6 inches.

Humber dock.—Opened 1809; water area, 9 acres 2 roods 3 perches; depth of water on sill, 26 feet 6 inches.

Princess's dock.—Opened 1829; water area, 6 acres 5 perches; depth of water on sill, 20 feet 5 inches.

Railway dock.—Opened 1846; water area, 2 acres 3 roods 9 perches; depth of water on sill, 26 feet 6 inches.

Victoria dock.—Opened 1850; water area, 23 acres 4 perches; depth of water on sill, 27 feet 6 inches.

Albert dock.—Opened 1869; water area, 24 acres 2 roods 18 perches; depth of water on sill, 28 feet 3 inches.

Sir William Wright dock.—Opened 1880; water area, 5 acres 3 roods 37 perches; depth of water on sill, 28 feet 3 inches.

St. Andrew's dock.—Opened 1883; water area, 10 acres 2 roods 10 perches; depth of water on sill, 28 feet 11 inches.

BYRON G. DANIELS,
Consul.

UNITED STATES CONSULATE,
Hull, March 6, 1891.

AMERICAN TRADE AT PUERTO CABELLO.

REPORT BY CONSUL RILEY.

On the 13th of January the steamship *Philadelphia*, of the Red D line of Wilmington, Del., arrived at this port heavily laden with American products, both agricultural and manufactured, being the balance of the cargo left at Pier 36, East River, New York, by the steamship *Caracas* on the 24th of December, 1890.

On this day the *Philadelphia* arrived at Puerto Cabello from La Guayra, and received on board for New York 6,462 bags of coffee and 1,500 hides. There were ten shippers, making the same number of triplicate invoices.

When I came to this consulate on the 1st of October, 1890, the ships of this line entered the port light and departed in the same condition. At that time the house of Boulton, Bliss & Dallett, New York, talked of withdrawing one of the ships from the line. Now they intend to increase the number from three to six to meet the demands of commerce, improved by the discussion of the principles of reciprocity.

WILLIAM G. RILEY,
Consul.

UNITED STATES CONSULATE,
Puerto Cabello, January 17, 1891.

LINSEED AND RICE IN INDIA.

TRANSMITTED BY CONSUL BALLANTINE, OF BOMBAY.

POONAH, *January 28, 1891.*

The undersigned has the honor to forward herewith a memorandum containing such information on linseed and rice cultivation and trade in India as is available in his office. The memorandum touches on the figures of all India, but, as regards cultivation, deals only with the practice of the Bombay presidency.

E. C. OZANNE,
Director of Agriculture.

LINSEED.

Statistics of the area and outturn of linseed are incomplete. Linseed and wheat are sown and reaped at the same season, and, broadly speaking, occupy the same regions. Linseed is grown for its oil only. The flax contained in the stalk is not utilized as fiber, because, even with thick sowing, the plant is too bushy and stunted in growth. It is sown both pure and mixed (chiefly with wheat), and area, as well as outturn, is most sensitive to the character of the season. If rain falls inopportunely, the crop is very liable to rust; for this reason all attempts to grow it as a rain crop for fiber would probably be fruitless. With the exception of Madras, Mysore, Sindhia, the Punjab, and Assam, every province shares largely in the trade of this oilseed. The harvest of 1888 was average. The following exports to the ports of shipment give a rough idea as to the average outturn in the different provinces of India:

Provinces.	Quantity.*	Provinces.	Quantity.*
	Tons.		*Tons.*
Bengal	195,356	Central Provinces	27,427
Northwest Provinces and Oudh	89,547	Berar	27,940
Bombay	27,280	Hyderabad	9,811
Rajputana and Central India	23,937		

* Figures from "Rail-borne Trade of India," for 1888–'89.

Statistical information for the harvest of 1889–'90 for Bengal, Hyderabad, and Rajputana and Central India is not available. In the Central Provinces the area sown with linseed was 638,800 acres, or more than 26 per cent. below the average of the last 5 years. The decrease was to a great extent ascribed to the fact that for the previous 4 years the linseed crop had been very disappointing, and cultivators abandoned its growth in favor of a less precarious crop. The outturn was, however, better than in the previous year, a full crop having been gathered in some places.

In the Northwest Provinces and Oudh the area under pure linseed amounted to 640,700 acres, or 25 per cent. above that of the previous year, besides about 12,000,000 acres under mixed culture. The winter rains failed almost entirely, and the crop on high, dry land suffered much from drought and that on low land from frost. The crop on high, irrigated land was good. The condition of the crop was estimated at from 50 to 75 per cent. of the full average and the outturn at 190,000 tons, or 7⅛ bushels per acre for the pure, and 2½ bushels for the mixed, crop.

In Berar the total area covered by this crop amounted to 249,200 acres, or more than 18 per cent. below that of the previous year. The decrease was due to the season having been favorable to early crops. The outturn was below the average, having been estimated at 22,972 tons, or 3¼ bushels per acre.

In Bombay the area was 181,800 acres, or 16 per cent. below that of the previous year. The outturn was also reduced to below average for want of moisture from dew and cold. The outturn was estimated at 12,326 tons, or 3 bushels per acre.

It is too early to make any reliable forecast of the current season's crop.

As to its cultivation, it has already been stated above that it is more or less a companion crop of wheat, and, like it, it requires a rich, black soil and is grown in tracts, with an annual rainfall varying from 25 to 35 inches. It is largely grown unirrigated and unmanured, sown in November and December, and harvested in February and March. By the middle of March, in many parts, the seed is ready, and during April and May the trade in the seed is in full swing.

Bombay and Calcutta are the only ports for exporting linseed to foreign countries, the export trade in this article from Kurrachee and the Madras ports being insignificant. Bahar supplies the bulk of the Calcutta exports, but the trade also includes linseed imported from the eastern districts of the Northwest Provinces by river. Bombay draws its supplies chiefly from its presidency, the Central Provinces, Rajputana, and Central India; Berar, the Northwest Provinces and Oudh and Hyderabad.

RICE.

Rice is largely grown in Bengal. It is also the staple crop of Madras and the coast districts of Bombay. A considerable quantity is also raised in the Northwest Provinces and the Central Provinces; but Burmah is the premier rice-producing province of British India. As no forecast reports of this crop, except for Burmah, are prepared, statistics regarding the area and outturn of this year's rice crop in India are not available. As far as the Bombay presidency is concerned, the rains were uniformly seasonable and good, till the October rain, unnecessary and untimely, reduced the crop from a full to only a fair crop. It, however, compares favorably with the crop of the previous year.

Regarding its cultivation, it may be said that rice is cultivated in more ways and under more varied conditions of irrigation and climate than any other crop in India.

The description given in the Bombay Statistical Atlas is appended.

E. C. OZANNE,
Director of Agriculture.

[Extract from Bombay Statistical Atlas, 1888.]

RICE.

In the Konkan districts and in the moist areas with very heavy rainfall all along the eastern slopes of the Sahyádris rice is grown continuously in low lands, generally embanked to impound the rain water. In these tracts irrigation is impossible, and the crop is solely dependent on the rainfall, which is entirely derived from the southwest monsoon. The rains burst suddenly and heavily and are very continuous, but terminate early. These are the tracts where rice-seed beds are prepared by burning layers of cow dung or brushwood with subordinate layers of leaves, grass, rice straw, and earth. The seed beds are on higher land than the fields into which the seedlings are transplanted—a necessary precaution to prevent flooding when the seedling is in its early stages. This, the *ráb* cultivation of rice, has been declared by the forest commission, on adequate evidence from local inquiry and careful experimental cultivation, to be good farming and, under the peculiar conditions of the country where it is practiced, the best known method of cultivating rice. Other systems known and practiced are risky and incapable of extension beyond their present small areas in *ráb* tracts.

The peculiar circumstances referred to are: (1) The absence of heavy showers before June, (2) the very heavy early rainfall, (3) the heavy continuousness of the early rain, (4) the early closure of the rains, (5) the absence of rain from the northeast monsoon, (6) the absence of facilities for water storage.

The other limited systems of growing rice in *ráb* tracts are: (1) The direct sowing of the seed in areas where the seedling is left to mature to harvest—a system only possible with the coarse variety of rice sown in lands on the seacoast either reclaimed from the sea or liable to partial immersion from the sea or tidal creeks, and thus largely impregnated with salt; (2) the raising of the seedlings in land heavily manured, either artificially or naturally. This system is of very limited application, and is only a means of preparing seedlings where *ráb* is not available or where *ráb* seedlings have been lost. It is risky and seldom remunerative, and its requirements limit its use to very insignificant areas.

The *ráb* cultivation of rice ceases in South Surat at the River Lar, chiefly because rice ceases to be the most important staple and the manure is required for sugar cane and other more remunerative crops. Its cessation is not due to superiority of skill on the part of the cultivators, for *ráb* is fully utilized in Bassein and Mahim in North Thána, where the cultivation is as skillful and admirable as in any tract in the whole presidency.

Ráb again ceases on all sides where the peculiar conditions of *ráb* tracts are wanting. Thus in the Karuátak, outside the Mallád and to some extent within its limits, water-storage facilities exist. Here rice is drilled in terraced rice fields, with the advantage either of heavy showers in May, which enable the seed to be sown and to get a good start before the burst of the regular rains, or of irrigation water stored in tanks, by which the fields are flooded and the seed sown before the rains begin. This is the mode of cultivation in the rice tracts of Darwar and Belgaum. The variety of rice is different from that grown in *ráb* tracts. It is inferior and has lost some of the characteristics of an aquatic plant. This is clear, because, if the early rain is not propitious, *jowári*, a dry-crop millet, can be grown, instead of rice. Occasionally rice is seen on one terrace and *jowári* on the next, and even rice and *jowári* are sown in the same field. In Gujerat, where rice is grown in low-lying lands embanked as in the Konkan, the seed is raised in seed beds, manured, but not *rábed*. This cultivation is possible, owing to local peculiarities of rainfall, even when irrigation is not available; but a large proportion of the rice in Gujerat is grown either under tank and well irrigation or as a pure dry crop. In the latter case it is drilled as in Darwar and Belgaum, but here (*i. e.*, in Baroach chiefly) it is a row crop in cotton fields. It is thus almost a pure dry crop. This short account shows that rice, essentially an aquatic plant, is grown even as a dry crop. The extremes are met with in the row-crop rice of Baroach and in the salt-marsh rice of the Konkan. In the latter case the seed is sown broadcast and left to grow where it falls. The seed is treated before sowing, to cause artificial germination. Where the land is very salt, it is not touched till it has been inundated by the rain. It is then stirred with the bullock hoe, and the sprouted seed is sown on the surface of the water. It falls to the bottom and takes root. It will stand complete immersion for 10 days. Sometimes it is sown from boats. Where the land is less salt, it is carefully picked with the hand hoe in the hot season and left in the rough till the rain falls, when the sprouted seed is sown broadcast.

The artificial germination of the seed, which is not confined to salt rice, or even to rice, is caused in several ways.

There are very many varieties of rice, but it is sufficient for present purposes to show only how the varieties are influenced by the conditions of cultivation and rainfall, as has been done.

One interesting method of cultivation most prevalent in Rutuagherry and Canara must be noticed. It is practiced with hot-weather rice, generally a late crop, after the reaping of the monsoon crop. The field is kept flooded for a time to kill weeds. The water is drained off, manure is applied, and the seed sown in December. It is watered from time to time and ripens in March. The water is brought from a dammed-up stream or from a well or tank. This is called Váyangana rice.

Rice straw is not a nutritious fodder. The grain is easily separated from the ear by beating on a board or on sheet rock. The glumes are persistent, and clean rice is only separated by pounding with pestle and mortar. The cultivators usually sell the rice in husk, and it is so kept by the ryots till a sale has been insured. The pounding is confined chiefly to large centers, of which Surat and Kalyán may be considered the most important. The straw is largely used for fodder, because where rice is a staple ether fodder is scarce. It is also used as a thatching material and has the great property of keeping off white ants.

LINSEED.

Linseed is grown as an oilseed, and never for flax. It is a most delicate crop, suffering from diseases of which a fungoid disease—perhaps rust—is the commonest It is sown alone in Candeish, but in the rest of the Deccan and in the Carnatick chiefly as a row crop with wheat or grain or around the headlands. In Candeish it is sometimes taken as a late crop, following *bájri.* The seed is used in condiments and the oil in cookery.

IMPROVEMENTS IN CHINA TEA-GROWING.

REPORT BY MINISTER DENBY, OF PEKING.

I have the honor to inform you that Mr. E. Pinches, of whom I made mention in a previous dispatch, has arrived at Peking. His object is to secure the consent of the Chinese Government to his scheme of establishing a model tea farm. He has secured the approval and coöperation of the inspector-general of customs, and it is probable that he will be successful in his mission.

I inclose a clipping from the North China News, wherein Mr. Pinches gives some account of his plans and methods. I have lately received from the chamber of commerce of Los Angeles, Cal., a request to forward some tea seed for the purpose of beginning the culture of tea near that city. I instructed Consul Andrews, at Hankow, to send on some tea seed. The instructions contained in the inclosure will be beneficial to the cultivators of the plant.

CHARLES DENBY,
Minister.

UNITED STATES LEGATION,
Peking, January 15, 1891.

PROPOSED IMPROVEMENTS IN CHINA TEA-GROWING.

[Inclosure in Minister Denby's report.]

Mr. E. Pinches, who lately gave the Shanghai Chamber of Commerce some information as to his proposals with reference to the cultivation of the tea plant in China, writes us as follows from Tien-Tsin, where he has been stopping on his way to Peking:

"Briefly, my proposals are simply to endeavor to obtain from the Government at Peking a tract of land either at Shanghai, Hankow, Foo-Chow, or Formosa, to be handed over to a Chinese company for a period of not less than 15 years, in which would be established a tea garden, to be worked in the same manner as tea gardens are worked in India. Thevery latest tea machinery would be introduced, suitable buildings erected, and the tea bush cultivated and plucked in the same manner as in India. The introduction of machinery would considerably lessen the cost of the tea and give China a better chance of competing with India. It would also improve the make and appearance of the tea. The reason, to my mind, why China tea has so fallen off in quality is simply that less attention is now given to the cultivation of the plant than used to be given formerly. The cultivator has received a lower price for his tea year by year. To meet this, instead of working up his cultivation more, so as to get an increased yield from his plant, and thus reduce the cost of his tea and also improve its quality, he has spent less on cultivation, thus hoping to reduce the cost of his tea, entirely forgetting that by doing so he is really killing the goose that lays the golden eggs. The Chinese—at any rate in Formosa, the only tea district of which I can speak with confidence—have simply no idea whatever of pruning as understood in India. As a rule, the tea bush is hacked down once in about 6 years, branches being left split halfway down in a most barbarous manner. Scientific pruning means really giving the tea bush a new lease of life. After a season's plucking, especially as done in China, there are a certain number of twigs which have partially dead bark, and which, if left alone, will next plucking season only give very few leaves, and those of a thin, sapless character. Cut away this partially dead wood at the end of the plucking season, and next year, when the sap commences to rise, you will have a fine young shoot which will not only give you plenty of leaf, but will also be of good quality. I have always found the soil round a Chinese tea bush caked so hard that a fork could scarcely penetrate it. If this soil were properly loosened by forking round the bush, more moisture would get to the surface roots of the bush, and thus insure a more rapid rise of sap which again would, of course, mean increased quantities of leaf. Again, the Chinese system of plucking is very bad. Chinese wait till in a plot of tea all the bushes have got a lot of leaf on them, and then men, women, and children—sometimes the latter only 5 years of age—are let loose among the tea bushes. Nearly every leaf is ripped off the bush, whether it is properly ready or not. Some of the leaves have, of course, grown too old, and others are not properly ready. To get the best quality of leaf, you must be constantly going round your tea garden, say once in 7 days or so, only taking the leaf which is perfectly ready and leaving the rest for your next time of going round. Practice alone, of course, can teach you this. If you allow leaf to grow too long, it becomes hard and difficult to manufacture and does not make good tea. On the other hand, if you pluck it too young, you lose leaf, as, if it had been allowed to grow a little longer, it would have weighed more. It seems to me a most extraordinary thing that such an intelligent race as the Chinese undoubtedly are should calmly sit down and allow one of their most important industries to pass away from them without making an effort to prevent it. If figures are true facts, unless the Chinese make some attempt to keep abreast of the times, at the present rate of yearly decrease in the China tea crop about 4 or 5 years should see the end. There are plenty of tea gardens in India which can lay their whole crop down in London at an average cost of *7d.* per pound, some even less. China at present can not do this. First let China try what can be done by a better system of cultivation and the introduction of the late tea machinery, and then, if that is not enough to place her on an equal footing with India, the likin must be done away with."

RICE IN MADAGASCAR.

REPORT BY CONSUL CAMPBELL, OF TAMATAVE.

I have no means of ascertaining correctly either the quantity or quality of rice produced in this country, but may safely state that the Malagasy as yet hardly raise enough for home consumption. Although beef and rice are the two principal commodities used by the natives as their general food, yet much of the rice consumed by them is imported from India by the foreign traders.

Many reasons may be assigned for the lack of the culture of rice, among the foremost of which may be cited the absolute want of roads to or from the rice-producing districts of the island to the seacoast or elsewhere. This is one of the great inconveniences which seem to render rice an unprofitable commercial exchange. Then, again, so long as the poor natives are used as draft horses in hauling on their backs everything from the seaboard to all parts of the interior there can not be much hoped for in opening up the country. These poor creatures, who under other circumstances would most likely turn their attention to the cultivation of the soil, are compelled to act as beasts of burden. Until there is an end put to the existence of such a state of affairs, one can hope but little for the development of any of the resources of Madagascar.

JOHN P. CAMPBELL,
Consul.

UNITED STATES CONSULATE,
Tamatave, December 20, 1890.

FLORENCE.

REPORT BY CONSUL DILLER.

AGRICULTURE.

The general result of the harvest, with the exception of olives, throughout this province has been good, as well as in the province of Emilia, embraced in this consular district (see Table 1). Tuscany was especially, however, favored with an abundant harvest of corn, oats, wheat, and wine of superior quality; consequently, the prices of the prime necessaries of life were somewhat less than in the previous year, and the condition of the farming class thereby improved. No marked cases of distress in this class of workers have been reported.

Professor Ferrari, of the Royal Technical Institute, with the consent of the commanding officer in this city, has been engaged in giving instruction to the soldiers belonging to the farming class, whose terms of military service are about expiring, on the following subjects:

(1) Peronospora: character of the disease, development, its damages, and remedies.

(2) Treatment, and applying remedies of sulphate of copper.

(3) Phylloxera: its character and how to prevent its spreading; the remedies and grafting on American vines.

Some 200 soldiers have attended these lectures and manifested great interest therein. This is one of the evidences of the importance attached to this industry in Italy and how earnest the authorities are in protecting it. In former dispatches I have alluded to the importance of introducing American farming implements and machinery into this district by concerted action on the part of the producers of such goods in the United States, forming a grand depot for the sale and exhibition of such at some central point in the agricultural regions where farming is carried on on a large scale, say at Bologna or Milan for machinery and Florence for implements used by hand. The implements now in use are of a very primitive character; many of the plows certainly appear to belong to the time of Virgil. Winnowing mills and cornshellers are unknown. A windy day serves for the one, while for the other the corn is placed on a stone floor and the grain beaten off the cob with flails, as our fathers separated the wheat from the straw 40 years ago.

In Tuscany, where the holdings are generally small in area, it is doubtful, in the presence of the great number of cheap laborers, whether labor-saving agricultural machinery could be profitably introduced; certainly, the attempt would meet with great opposition from the laboring classes.

TAXATION.

The subject of taxation, always a prominent and interesting one in all communities, is especially so in Italy, where it reaches colossal proportions in its operation on the product of the land and on the income arising from buildings, being on the former about 45 per cent. and on the latter 34.71 per cent. Formerly the tax on the latter averaged about 37 per cent., but during the year 1890 these taxes have been subject to a careful revision on the part of Government officials, and all improvements and enlargements within 10 years past have been added to the present valuation, thus increasing the revenue to the Government, at the same time somewhat lessening the percentage to the owner. There was much dissatisfaction manifested at the time, and rents rose in proportion; but patriotism and a desire to aid the Government at length prevailed, and the added valuation was concurred in.

TOBACCO MONOPOLY.

The tobacco monopoly, which is a source of large revenue to the Government, is being materially increased by the establishment in this city, in connection with the works here, of a manufactory of fine cigarettes, such as heretofore were supplied by English and German houses to the amount of about $4,000,000 annually. This especial branch will be in charge of a person familiar with the manufacture of cigarettes in the East, and it is believed the product will be acceptable to the lovers of the weed in this form in Italy, and thus stop the drain of the above large amount which has hitherto found its way out of the country. Already 100 females are engaged in making Egyptian cigarettes at the factory here, with the prospect of success and a large increase of laborers in the future.

SANITARY CONDITION OF FLORENCE.

During the months of December, 1890, and January, 1891, an outbreak of typhoid fever occurred in this city, which for a time assumed alarming proportions. The reticence of the authorities and the local press made it difficult to arrive at the actual condition, the cause of the outbreak, or the number of cases. I was therefore compelled to rely on personal effort to ascertain the character and extent of the epidemic, of which the Department was promptly and frequently advised. It is to be regretted that the officials having charge of the health statistics of the city report but once in a month, which report is usually not published for a fortnight after the close of each month. A weekly report, especially at such a time, would greatly allay anxiety and prevent undue exaggeration and hostile criticism. Notwithstanding the prevalence of fever during the 2 months last past, the reports do not show any increased mortality over such period in former years.

The winter has been much colder than during the 2 previous years, the snowfall much greater, and consequently the distress among the poorer classes more severe and trying. I have no doubt that many deaths attributed to typhoid fever were really due to the latter cause, especially among the aged and feeble and young children belonging to the very poor. It is gratifying to state that, with rare exceptions, the foreign element escaped attack. The cause of the outbreak was that one of the mains supplying water to a portion of the city became impregnated with fever germs, in consequence of not having been properly protected. The closing of this contaminated supply of water at once arrested the spread of the disease, and at this time I can learn of no new cases occurring. The general health of the city is now believed to be good, and throughout the entire district the most favorable reports are received of a healthy condition of the people.

NEW SURGICAL CLINIC AND LUNATIC ASYLUM.

In this connection, I have great pleasure in referring to a new surgical clinic connected with the hospital Santo Maria Nuova, which has been built and donated by one of our citizens, Mr. E. P. Fabbri. This surgical clinic has all modern comforts and appliances and contains sixty beds, with separate apartments for males and females. The lecture hall is of iron, with accommodation for one hundred and sixty scholars. The surgical instruments, also donated, are of the finest and most approved styles. One large room with glass pavement is designed for the more serious operations, another for microscopical examinations, and still another for studies of bacteriology and kindred subjects.

Mr. Fabbri has also erected a commodious building for the lunatic hospital San Bonifazio, which has been removed to San Salvi, he agreeing to erect the new building, with greatly enlarged conveniences and the grounds necessary for its purposes, in consideration for the grounds formerly occupied by the hospital San Bonifazio, which adjoin his present residence. The transfer has been made, and the new lunatic hospital has been duly inaugurated and in successful operation, to the complete satisfaction of all parties concerned.

RAW SILK INDUSTRY.

According to the returns of the chamber of commerce in this city for the calendar year ended December 31, 1890, it appears that the actual weight of raw silk which has passed inspection at that office for the year 1890 was 110,182½ pounds avoirdupois, consisting of 495 bales, requiring 598 tests, showing a decrease of 1,683 pounds average, or 1.53 per cent., in comparison with the previous year.

FLORENCE-FAENZA RAILWAY.

In my last annual report it was predicted that this important link between Florence and the Adriatic would have been completed during the year 1890. I regret to say this prediction has not been verified. The section between this city and Borgo San Lorenzo, 35 kilometres, was opened for traffic on the 8th of April, 1890. The running time is 1 hour 25 minutes. The line between Florence and Vaglia, which presented some serious engineering difficulties, has been finished, and the Cercina tunnel, which cost about $3,500,000, is now safely passed in 8 minutes. The sections between Borgo San Lorenzo, on the Florence end, and Marradi, on the other, are still unfinished. It appears that lack of funds, more than any serious engineering difficulties, prevents the completion of these central divisions. The next year will probably see the completion of the entire line, which, when finished, will form a close connection between Florence and the Adriatic at Ravenna and at the celebrated bathing place at Rimini, and will greatly lessen the distance between the Adriatic and the Mediterranean.

EXPORTS TO THE UNITED STATES FOR 1890.

I inclose herewith Table 2, showing the export trade between Florence and the United States for the calendar year 1890, which explains itself. I desire, however, to call the attention of the Department to the large increase of exports over the preceding year, especially in bronzes, paintings, and straw goods, the total increase for the year amounting to nearly $225,000. The number of invoices and amount of fees are not correspondingly increased, for the reason that the values of the invoices were greater and shipments of less than $100 in value did not require a consular certificate.

Although we are yet too near the passage of the new tariff bill of October 6, 1890, to form a correct opinion on its effects as regards the export trade from this district to the United States, yet enough is known to warrant the belief that its provisions are very favorable to the leading industries, especially those of straw and works of art. In the straw industry, which is the largest in the trade with the United States from this district, braids and trimmings for hats, etc., have been placed on the free list, which under the previous tariff paid a duty of 20 per cent.

On works of art—paintings in oil or water colors and statuary in marble or alabaster, stone or metal, such as is cut, carved, or otherwise wrought by hand and is the professional work or production of a statuary or sculptor only—the duty has been decreased from 30 to 15 per cent. This is also a great concession to one of the important industries of this district. On the whole, the new tariff act may be considered as favorable to Italian industries, especially so far as this consular district is concerned, and I confidently look for a greatly increased volume of trade within the coming year.

Table 3 refers to the consular agency at Bologna, which also shows a gratifying increase of exports over the previous year, especially in the articles of hemp, beans, and straw goods.

This table reports but a small percentage of direct export of Bologna sausages to the United States, yet it is known that a very large amount reaches our country via England, France, Germany, and Belgium. No duty is levied at the United States custom-houses on Bologna sausage, while smoked or salted meats produced in the United States are subject to a customs duty in Italy of 25 Italian lire, or nearly $5, on each quintal of 220.46 pounds.

On another of our principal products, petroleum (refined), the import duty is levied at 36 Italian lire, or about $7, on each quintal of 220.46 pounds. Its superiority over the Russian product enables it to maintain its supremacy.

THE WORLD'S COLUMBIAN EXPOSITION.

The exposition which is to be held, according to the proclamation of the President of the United States, at the city of Chicago on the 1st day of May, 1893, is already exciting a good deal of attention here on the part of sculptors, painters, and others. At this time it is not officially announced whether the Italian Government will respond favorably to the invitation of the President to take part in the said exposition or not, but I am confident that, individually, Italians will be represented in Chicago on that occasion by many beautiful products of their skill in the fine arts and manufactures. The favorable consideration shown to Italian products in the reduction of duties in the new tariff upon some of their principal products naturally inclines the people to an appreciation of the benefits to their trade in being properly represented at the exposition. The mere fact of the exposition being held in the interior of our country will make no great difference so far as the transport of fragile and delicate works of art is concerned. Water communication can be secured, if desired, from the ports of Leghorn, Genoa, or Naples to the very doors of the art palace on the lake front in Chicago. Continually the very finest and most delicate works of art are shipped from here to places further into the interior of our country by rail from our seaports at the sole risk and expense of the shipper without loss or damage. This, therefore, disposes of the objection which has been raised to transport to Chicago.

TABLE 1.—*Crops of 1890, province of Florence.*

Products.	Yield in 1890.	Average yield, 1879–'83.	Crop of 1890 compared with those of 1879–'83.	Quality of 1890 crop.			
				Very good.	Good.	Medium.	Inferior.
District of Tuscany.			*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Barley........hectolitres...	75,800	76,300	99.34	....	67	33	....
Chestnuts.......quintals...	592,100	862,900	68.78	....	51	46	3
Corn..........hectolitres...	1,292,800	1,822,400	70.24	....	87	13	....
Hemp..................tons...	1,402	1,800	77.89	....	30	70	....
Oats..........hectolitres...	355,800	398,800	89.22	....	81	19	....
Rice....................do......	16,900	18,600	91	....	100	....	....
Wheat.................do......	3,729,800	3,645,200	102.32	22	78	....	....
Wine...................do......	2,152,900	3,068,500	70.16	49	48	3	....
District of Emilia.							
Barley........hectolitres.	76,500	71,900	106.40	....	100	....	....
Chestnuts.......quintals...	231,800	238,400	97.23	17	19	47	17
Corn..........hectolitres...	2,501,100	3,309,300	75.62	16	49	35	....
Hemp..................tons...	43,442	47,655	90.93	....	62	38	....
Oats..........hectolitres...	258,700	260,200	99.42	....	100	....	....
Rice....................do......	493,100	516,300	95.51	....	100	....	....
Wheat.................do......	5,666,600	5,362,600	105.67	9	91	....	....
Wine...................do......	1,877,400	2,570,700	73.03	28	42	30	....

TABLE 2.—*Exports from Florence to the United States in 1890.*

Articles.	Quarter ending—				Total.
	March 31.	June 30.	Sept. 30.	Dec. 31.	
Alabaster goods	$3,930.13	$4,407.14	$15,380.94	$6,443.54	$30,161.75
Books		368.63			368.63
Bronzes	25,960.00	616.03	6,200.00		32,076.03
China ware	446.35	504.62	771.23		1,722.20
Household goods	8,789.20	12,948.41	6,099.21	3,813.40	31,650.22
Marble statuary	12,073.85	19,945.05	34,143.14	12,485.83	78,647.87
Mosaic goods	637.82	827.29	1,367.00	457.00	3,289 11
Olive oil, etc	1,990.56	421.94			2,412.50
Pictures	9,690.87	22,988.93	62,340.49	9,976.20	104,996.49
Skins			2,610.00	6,880.40	9,490.40
Soap	464.73		735.78	618.85	1,819.36
Straw goods	297,170.20	150,231.67	185,382.36	304,251.98	937,036.21
Wine	3,056.96	4,702.89	2,572.02	5,145.94	15,477.81
Sundries	548.00	307.16		553.69	1,408.78
Total	364,058.67	218,269 76	317,602.17	350,626.76	1,250,557.36

TABLE 3.—*Exports from Bologna to the United States in 1890.*

Articles.	Quarter ending—				Total.
	March 31.	June 30.	Sept. 30.	Dec. 31.	
Beans	$6,909.40	$12,083.37	$5,870.10	$17,893.60	$42,756.47
Hemp	75,701.80	85,564.11	17,228.88	21,684.80	200,879.65
Household effects		1,940.61		1,351.00	3,291.61
Medicines	591.83	345.71		422.19	1,359.73
Rush baskets	584.59	627.15	250.51	528.91	1,991.16
Sausages	153.09	82.22	944.14		1,179.45
Straw goods	6,633.94	4,348.69	7,433.69	12,569.61	30,985.23
Sundries	377.80	138.19	113.87	56.80	686.66
Total	90,951.75	105,130.05	32,544.19	54,506.97	283,129.96

TABLE 4.—*Customs duties of Florence in 1889-'90.*

No.	Articles.	Amount
1	Spirits, wine, oil, etc	$19,912.24
2	Groceries and tobacco	12,093.52
3	Chemical products, etc	4,773.17
4	Colors, etc	1,475.32
5	Hemp, flax, jute	8,008.84
6	Cotton	87,483.48
7	Wool, horse hair	119,933.82
8	Silk	32,942.70
9	Wood and straw	4,361.64
10	Paper and books	7,377.21
11	Hides and skins	12,234.31
12	Minerals, metals	64,166.75
13	Stones, clays, glasses, etc	17,181.07
14	Cereals	211.28
15	Animals, and spoils thereof	4,510.30
16	Sundries	25,364.06
	Total	422,409.72

TABLE 5.—*Municipal customs of Florence in 1889–'90.*

No.	Articles.	Amount.
1	Meats on the hoof and butchered	$259,905.55
2	Cereals, flour, paste	146,187.90
3	Provisions	193,915.67
4	Wine, beer, vinegar	498,351.68
5	Liquors	13,473.71
6	Groceries	35,302.06
7	Forage	35,595.18
8	Wood, coal, oil, etc	98,199.62
9	Materials for building, etc	14,792.59
10	Timber, metals, etc	10,688.78
11	Sundries	2,569.31
	Total	1,308,982.05

TABLE 6.—*Number of prisoners in penal institutions in Florence in 1889–'90.*

Description.	Penitentiaries.		Prisons.			Total.
	Muzate.	Santa Verdiana.*	Muzate.	Santa Verdiana.*	Santa Teresa.	
Number of prisoners on June 30, 1889	378	28	242	22	62	732
Number of persons imprisoned up to June 30, 1890	216	19	2,450	159	771	3,615
Total	594	47	2,692	131	833	4,347
Number of prisoners released:						
At expiration of term	184	10	821	91	785	1,891
Pardoned	18	....	6	....	....	24
Transferred to another prison	64	....	1,595	73	48	1,780
Transferred to lunatic asylum	6	....	1	....	....	7
Dead	5	2	2	....	....	9
Total	277	12	2,425	164	833	3,711
Total number of prisoners on June 30, 1889	317	35	267	17	....	636

* Female.

TABLE 7.—*Expenses of penal institutions in Florence in 1889–'90.*

Name of prisons	Total expenses.	Daily average expenses.
Penitentiaries:		*Cents.*
Muzate	$18,909.61	15.3
Santa Verdiana*	1,400.04	12.5
Prisons:		
Muzate	10,246.75	12.4
Santa Verdiana*	824.35	12.4
Santa Teresa	1,423.16	12.4
Total	32,803.91	13.8

* Female.

TABLE 8.—*Number of visitors to galleries and museums in Florence in 1889–'90.*

Galleries and museums.	Visitors.	
	Paying fees.	Artists.
Galleria Degli Uffizi	25,720	18,677
Galleria Palatina	14,912	9,259
Galleria Antica e Moderna	10,539	6,533
Museo Nazionale	12,970	2,727
Museo di San Marco	8,658	1,716
Museo Archeologico	2,241	2,249
Museo di Pietre dure	993	149
Cappelle Medicee	18,481	2,315
Cenacoli	3,722	295
Total	108,236	43,920
Total visitors paying fees and artists	152,156	
Visitors on Sundays	110,355	
Grand total	262,511	

ISAAC R. DILLER,
Consul.

UNITED STATES CONSULATE,
Florence, February 13, 1891.

SHIPPING AT MARACAIBO.

REPORT BY CONSUL PLUMACHER.

I have the honor to inclose a statement of the arrivals of vessels at this port during the past calendar year, and am pleased to note that our flag has been somewhat better represented than in 1889. At the beginning of 1890 I was quite sanguine that the exports of different woods from Maracaibo to the United States would be so increased as to cause frequent arrivals of American sailing craft, but in this I have been disappointed, as, instead of an increase, there was a considerable falling off in the shipments of timber and dyewoods. We have more than held our own, however, which is more than can be said of any other foreign country in respect to the presence of its flag in these waters.

The Venezuelan coasting trade has been unusually brisk, the number of arrivals of vessels under the flag of the Republic being during 1890 more than double that in the previous year.

The Red D line continues to do good service, and Americans may well be proud of its excellent organization and management. In my report for 1889 I dwelt upon the fact that it was obliged to compete with both German and Dutch steamers, which had the advantage of substantial subsidies from their respective Governments, being able, moreover, to run much more cheaply than American vessels, and thus offer lower rates for freight and passage. In spite of the apparent saving made by patronizing one of these opposition lines, the incontestable superiority of the Red D steamers, their greater safety, better accommodations and fare, together with the high reputation of their commanders and officers for ability and deportment, have enabled them to always secure the best part of the trade.

Notwithstanding the drawbacks which have harassed this company, their vessels always come and go full, and the benefit to our trade with Venezuela caused by the establishment of this line is simply incalculable. All of the products of this country—amounting to many millions of dollars annually—which are exported to the United States are carried in American bottoms, which return to this country loaded with American merchandise, the greater part of which, it is safe to say, would, under other circumstances, be purchased in European markets. The German line already mentioned soon came to grief for want of patronage, and its steamers made in all only six trips to Maracaibo. The Dutch line has as yet made no attempt to invade the lake, but is content to take what cargo it can secure at Curaçao, Puerto Cabello, and La Guayra for Europe, limiting its competition with the Red D to the trip between New York, Curaçao, and the coast. It has had, however, I believe, no perceptible effect upon the business of the American line, which is now too popular and well established to be easily shaken.

I beg to point out that, setting aside Venezuelan coasters, the arrivals of American vessels at this port during the past year have exceeded those of the vessels of all other nations combined.

Table showing number of vessels arriving at the port of Maracaibo during the year ended December 31, 1890.

Flag.	Steamers.	Barks.	Brigs.	Schooners.	Total.
American	45			4	49
British	6		1	3	10
French		1			1
German		1	7		8
Dutch			2	6	8
Danish		1	8		9
Italian		3	1		4
Norwegian		2	1		3
Swedish			1		1
Spanish			2		2
Venezuelan				80	80
Total	51	8	23	93	175

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, January 14, 1891.

SILVER MONEY IN CHINA.

REPORT BY CONSUL FOWLER, OF NINGPO.

I have the honor to inclose a translation from the Shên Pao of the prize essay of the Chinese Polytechnic Institution, in reply to the theme set by the taotai of Ningpo, Wu Yin Sün:

> The southeastern provinces have now much foreign money in circulation, and the natives consider it a great convenience. Should China set about coining gold and silver money? Would it circulate freely? Would it be advantageous to the country, or the reverse?

The taotai looked over the essays himself and awarded the prize to the composition of Mr. Yang, of the Canton province, of which the inclosed is a translation.

Owing to the great interest now being excited the world over in the silver question in the United States, I venture to believe that this will be of value, especially as it shows the matter of coinage in a new quarter.

JOHN FOWLER,
Consul.

UNITED STATES CONSULATE,
Ningpo, January 23, 1891.

ADVANTAGES OF SILVER COINAGE IN CHINA.

[Inclosure in Consul Fowler's report.—Translation.]

The discussions of the present day on the causes of loss to China's wealth are confined principally to the purchase of foreign opium, foreign goods, munitions of war, and ships. Nothing is, however, said of other causes of loss, the effects of which, though slow, are persistent and deceptive. Of these the foreign dollar is the greatest.

When first foreign money was brought into China it was called the "Luzon dollar" (Spanish), coined from the products of American mines by the Spaniards, who were the first settlers in the country. Then came the American "eagle dollar," which was followed by the Japanese dollar. These dollars were first used in the Fukien and Kwang-Tung provinces; later on they reached Kiang-Soo and Che-Kiang, and at last they found their way into Hoo-Pe, Kiang-See, and Anhui, and now they are in use in every business town in the east and south. When one man began using them a hundred others followed, until everybody is praising the beauty and convenience of the dollar; and, as the importation of the dollar increased, so increased the loss to the country. The losses brought about by the influx of the dollar are not less than those caused by the importation of opium and foreign manufactures or the purchase of guns and ships. Little will show the dangerous tendency of exchanging China's wealth for the weed, of influencing the hearts of our people by the new and ingenious inventions in foreign goods, or of spending the tens of thousands required for the purchase of foreign guns or ships. These evils or losses are of the visible kind; but the loss caused by the foreign dollar, though invisible, as it were, is none the less real.

In the reigns of Tao-Kuaang and Hsien-fêng every dollar bought by China cost her 85 tael cents, and the loss on each dollar at this rate was 13 tael cents, the actual value of a dollar being 72 tael cents. The different provinces, put together, were purchasing from $40,000,000 to $50,000,000 yearly, and the heavy loss of $4,000,000 to $5,000,000 was yearly sustained.

The times are changed; but greater numbers of dollars are still brought every year from different countries, and more than one-half of the silver used in these coins contains one-tenth alloy, and for payment of this imported money pure and unalloyed Chinese silver is taken away in vast quantities. In this alone is an unknown loss. Moreover, the dollar which is worth only 72 or 73 tael cents is often sold in the money market from 1 to 4 tael cents above its value. Here also is a loss; and, if steps are not taken to check this draining, our silver supply will in the end be exhausted, if the Maling and Tientai mountains were solid heaps of silver and gold.

To stop the influx of the silver dollar or to prohibit its use by the people would be impossible. To me there appears to be but one thing which would prevent this outpour of China's wealth to foreign countries, and that is for China to set about coining silver money herself; but opponents will say that, even if China were to take this step, her money will not circulate. They will mention two instances where the attempt was made and failed. Towards the end of the reign of Tao-Kuaang two officials, one named Chow Tao-fu, of the board of punishments, and the other Chu Tung-chün, subprefect, obtained permission from the governor of Che-Kiang to start an establishment for the coining of silver dollars. When the money coined was laid before the people, they looked at it, rung it, and would have nothing more to do with it. Later on Hsü Hsüeh-tsun made a second attempt to coin dollars in Wu-hsi. The coins he turned out compared favorably in every respect with the foreign dollar, excepting that the people would not use them. Some merely say that if China put home-made silver dollars into circulation they will only be current in the southern and eastern provinces, as the people in the northern and western provinces, having been used to sycee and notes, would deem the sudden appearance of dollars as a medium of exchange a great inconvenience.

Such assertions as these are rather the opinions of narrow-minded men, who are not fit to discuss such weighty subjects, than of practical men. Which one of all those who stand on China's soil and eat of China's produce but wishes for the exaltation of China and the depression of western nations? The reason that all like the foreign dollar is because China has none of her own. Let China coin Chinese dollars, then see how many would prefer the foreign.

The coins presented to the people when the above-mentioned two attempts were made and rejected by them were false in look and ring; besides, the way in which they were brought into existence—in a village—appeared as if done privately and without sanction. This alone was enough to cause the masses to be suspicious of their legality and reject them. It is no wonder that the coins were not accepted. To avoid rousing such suspicions, the mint should be conducted in an open way; then the coin will not only be current in the eastern and southern provinces, but also in the western and northern provinces for the following reasons: Merchants of those parts at present have to carry sycee and copper cash. The cash is heavy and no great value can be carried in this form, and with sycee they suffer many heavy losses by exchange.

It is natural that man would be glad to put aside the cumbersome and take to the convenient, and the gold and silver currency, by its portability and uniform value, would rapidly gain popularity, and thus relieve the merchants of the losses and inconvenience they suffer under the present system.

The opposers of an established Government mint show four dangers which, according to them, should be well considered before China undertakes to coin dollars: (1) The facility of counterfeiting the new coin, (2) the difficulty of maintaining the coinage when commenced, (3) the loss of China's dignity by imitating western nations, (4) the possible dishonesty of the directing officials and workmen.

It would be unreasonable in the extreme for China to give up for the dread of such dangers a plan, which, if controlled by well-selected men, will effectually stop the outpour of our wealth and keep back from the foreigners a source of gain which is year after year impoverishing our country.

The impossibility of coining from the pure metal will be a gain to our Government. When the Government-coined dollars become current, the people will be pleased with the advantage of a uniform money system. The weight and value of the coins being the same throughout the country will obviate the evils of exchange, thus relieving the honest merchant of much loss and preventing speculators gambling on the rise and fall of exchange.

To stop the drain upon China's wealth by the increase of foreign manufactures involves heavy expense and promises but a slow return of benefits to the country, but it is otherwise with the establishment of a mint; the expenditure will be but small, and in a few years it will be the means of conferring a great advantage to all the provinces throughout the country. For enriching the nation there is nothing more advantageous than the establishment of an imperial mint for the coining of silver and gold money, and those who say that such a measure will bring evils greater than its possible advantages are in error.

From the above it can easily be seen that the dollars coined by China herself will surely be universally used, and that they will confer great advantages without the threatened evils.

To insure the success and permanence of the mint, it is essential to conduct it in such a manner as to leave nothing unprovided for at the outset. I attach hereto some remarks on the establishment and conducting of a mint.

The mint should be under official control. In order to gain the confidence of the people, it is necessary that all undertakings of this kind should be controlled by officials. To do this, first establish mints. They need not be in every province. If one were established at the most important part, it will supply the whole nation with coins. Take, for instance, the American mint; it is situated in Philadelphia, one of the most important cities.

The process of coining consists of melting, casting, cutting, polishing, stamping, and engraving. There in 1 minute they turn out 80 large coins or 120 small ones; in a quarter of an hour 1,200 large coins or 1,800 small coins are ready, or in 1 hour 4,800 large coins or 7,200 small ones. The rapidity with which these coins are turned out induces the writer to say that one mint will meet our needs. This mint should be at the most important town marking the limits of northern and southern China, hence Shanghai. The transportation of the coins from this town to other parts of the country will be easy; moreover Shanghai is where most of the imported coin is landed; if its market were filled with dollars of China's own coinage, it necessarily follows that the influx of foreign money will be checked.

This mint should be called the "Lung Chuan," or "Dragon Spring," mint and should consist of eight divisions—one for receiving and storing gold and silver, one for removing the impurities from the metals, one for rolling the metals into sheets, one for cutting the sheets into required lengths or sizes, one for stamping and engraving, one for weighing the coins, one for testing, and one for transportation to other parts.

The directing officers of the establishment should be men known for their honesty, intelligence, and uprightness of character. In each of the above departments or divisions should be a foreman, whose duty it will be to see that the workmen attend to their work. In this way all evils will be prevented, and, if the establishment exist for one day, it will exist for a hundred years. The above is only a general outline of my proposition, which I give in detail below.

SIZE AND DESIGN OF THE NEW COIN.

It is necessary, first of all, to decide upon a design for the new coin. It will not be wise to copy from other nations. In the writer's opinion no design can be more appropriate than the dragon. It would be far better than the human head or eagle; hence the name of Dragon Spring for the mint. The coin should bear a dragon on one side and an inscription in Chinese and Manchoo on the other. The engraving should be very fine and elaborate, showing each and every detail, in order to present a neat and beautiful appearance and at the same time prevent the coins being counterfeited. The weight of the large coin should remain the same as that of the dollar now in use, namely, 0.73 tael, and the smaller decreasing in weight in proportion. The largest of the gold coins should be worth 10 silver dollars and the next 5 silver dollars, and so on. The reason why the coins should be of the above values is that the masses, being used to these values in foreign coins, would find a new standard confusing.

NAME.

Foreign money in use in China is known by different names. China should discontinue applying them to her own coins. Each nation has names for her own money—for instance, in France, franc; Russia, ruble; India, rupee, etc. China, also, should have a suitable name for her coins. Since the design is to be the dragon, nothing could be more appropriate than "lung chien," or "dragon money."

SEPARATION OF THE PRECIOUS METALS FROM THE BASER METALS.

Silver and gold used for coining should be of the purest. Gold sometimes contains silver and copper, and, again, silver contains copper and gold. If coined while containing baser metals even in the smallest quantity, it would give the coins a rough appearance. In western nations impurities in metals can be removed with the help of acids. The ore as it comes from the mine is put into a crucible of a certain yellow earth, with certain acids, and placed over a fire. The gold and silver become separated from the copper, which adheres to the sides of the crucible; the two first-mentioned metals are then put through a similar process, when they become separated. The gold is then removed, while the silver mixes with the acid. This solution of silver is now placed into a glass vessel, and to it are added other acids, and the silver forms and sinks; another addition of acids ends the process.

Another method is also in use; although resembling the above, it differs from it in minor details. These methods apply to both silver and gold, and, as the acids are within China's reach, there is no reason why there should be any difficulty.

THE PURCHASE OF MACHINERY FOR COINING.

To coin by means of molds would be unsatisfactory and expensive work, and, to do good and quick work with small expense, the only thing left would be to purchase the necessary machinery. Machinery used for this purpose in western nations differs very much. Some are capable of turning out from 40,000 to 60,000 coins per day. Americans have brought coining to perfection, and we may copy from them. The use of machinery in coining saves a deal of labor, and hence ought to be employed. China is larger than most foreign countries, and, if machinery is not used in coining her money, the Government will not be able to meet the demand. To have mints scattered throughout the country would not be as practical as having only one mint with a good supply of plant.

EXAMINATION INTO METHODS ALREADY IN USE IN OTHER NATIONS.

If China coins her own money, it is necessary that she should examine into the methods already in operation by her neighbors. Before Japan started to coin her own money, a commission was sent to foreign countries to examine and learn what was being done. The plant in use was purchased at Hongkong. In the eleventh year of the reign of Tungchik (1872) the statistics showed that Japan had then already coined 2,190,256 gold pieces of different sizes, valued from $2.50 to $10 each, or in value altogether $14,488,981 silver; of silver coins, 13,313,722, valued from 5 cents to $1, or in value altogether $5,689,685. Now, China, before taking any further steps, should send a commission with artisans to the east and west to learn the latest improvements in money-coining. There can not be the slightest doubt as to success.

EMPLOYMENT OF CHINESE AT THE MINT.

In order to succeed, it seems necessary at first to employ foreigners as overseers, but to me the employment of Chinese seems more advisable. There are at present a number of Chinese in foreign countries, such as Manila, Cuba, and other places. These men are principally artisans, who not only have acquired a knowledge of the ways and manners of the foreigners, but have also learned something about machinery and its workings. These can be recalled and given employment, and would be found easier to deal with than foreigners, who will not move out of a beaten path; moreover, there is a great saving in their salary. Chinese ministers and consuls in foreign countries should be directed to issue notices calling upon such artisans to return to China. Finding there is employment at home, they would be only too glad to return.

PREVENTION OF COUNTERFEITING THE NEW COINS.

With machinery there need be no fear of false money being put into the market; the only danger there appears to be is that the coins might be hollowed and refilled with baser metal. Coins made by machinery are different in appearance to hand-made ones, and those who coin false money are as a rule unable to purchase machinery for that purpose. The same punishment as that awarded to coiners of false cash should be administered to those putting false or mutilated coins into the market.

Experts should be employed to see that the money at banks is genuine, and rewards for information on the coining of false money should be made public.

REWARD AND PUNISHMENT OF THOSE CONNECTED WITH THE MINT.

Few outside the mint would attempt to coin false money; the danger lies mainly with those who have control. Those who have performed their duties well will be rewarded according to their merits, and those who attempt fraud will be punished by one degree beyond the punishment provided by law for similar offense committed by people having no connection with the Government mint. In this way each, for his protection, will do his best.

A STANDARD VALUE FOR THE NEW COINS.

There is at present no fixed value for the dollar; the nominal value is 0.73 tael, but at times it is sold for 0.71 or 0.72, and at others 0.74 or 0.75, according to the rates laid down in the money market. Besides this inconvenience, there is the evil of speculators gambling on the rise and fall of exchange. To prevent this, it is necessary that a standard value of the gold and silver coin be fixed throughout the country. The local authorities should make it their duty to see that there are no premiums or discounts offered, and the bank making the offer should be closed and sealed and the banker deported.

PAYMENT OF TAXES AND MILITARY EXPENSES IN THE NEW COIN.

To attain success it is necessary to gain the confidence of all classes; hence the Government should begin by collecting taxes and defraying military expenses in the new coin. This would be an advantage to every province.

As the new money will have a standard value, there will no longer be any dishonesty on the part of the treasury. The Government and people using the same coin will in a short time make it universally current.

After the establishment of the mint the Government can set up banks in the different provinces, and these state banks will issue bills having the same value and answering the same purposes as the metallic currency.

STREET-LIGHTING IN BERLIN.

REPORT BY CONSUL-GENERAL EDWARDS.

The use of the electric current for public lighting purposes in the city of Berlin dates from the beginning of the period under report.

Since the fall of 1882 the Potsdamer Platz and Leipziger street, as far as Friedrich street, have been lighted with thirty-six electric arc lights.

At first the business was in the hands of the firm Siemens & Halske, but in the spring of 1886 it was transferred to the Berlin Electricity Company.

With the exception of a few interruptions, which were excusable at the beginning of the business, nothing has occurred to raise any objection to the further use of electricity for street-lighting purposes.

It is true that there is a difference in the cost of electric and gas lights, even where improved burners, which consume a much larger quantity of gas than did the old ones, are used. Yet, when the question arose as to whether the Unter den Linden, which had previously been miserably lighted, should be lighted with electricity or with improved gas jets, the city authorities decided in favor of the former. It was decided on April 29, 1887, that—

> The grand entrance of Unter den Linden in our present imperial city, the popular promenade in the same, the monumental character of the buildings on this street and on its extension as far as the royal castle require the use of the most beautiful, if at the time the most expensive, system of lighting and to a greater extent than in the Leipziger street, which, however brilliant it may have become in recent times, lacks the æsthetic and historic importance of the street in which our emperor and crown prince reside, of the street which is the center of festal joy on all holidays of the Fatherland, of the street which time and again has been the *via triumphalis* of our returning victorious warriors.

On September 29, 1887, the project of lighting Unter den Linden and its extension as far as the Spandaüer street was finally adopted, and the contract was given the Berlin Electricity Company.

On August 31, 1888, for the first time, one hundred and four arc lights cast their dazzling brightness over the Pariser Platz, Unter den Linden, the Opera Platz, the Castle bridge, the Platz am Lustgarten, and the Kaiser Wilhelm bridge and street.

The lamp poles were constructed after a model approved by the architectural society, and cost 82,000 marks.

The amount to be paid by the city for light was fixed by contract at 36 pfennigs per hour, or 96,262.80 marks per annum. For the Potsdamer Platz and Leipziger street 40 pfennigs* per hour is paid to the Berlin Electricity Company. This amounts to about 29,000 marks per annum. The company, at its own expense, keeps in repair lamps, lanterns, and poles and attends to the lamps. While these two streets are lighted with electric light, there has been an improvement in the lighting of many other streets also.

The ever increasing traffic on the principal streets and the extension of the network of street-car lines have rendered necessary for streets in the periphery of the city not only an increase in the number of lights, but also a great increase in their intensity as compared with that of ordinary street lamps.

In addition to the electric lanterns, with Siemens's regenerative burners, on Leipziger street and at many crossings and on many squares, in recent years an improved system of lighting with Bray burners has been introduced in those streets where the street-car traffic has been heavy. With the latter burners a flame twice as large as that of the ordinary street lamp is obtained in lanterns specially constructed for the purpose. It is the intention of the municipal gas commission to erect such lanterns as rapidly as possible in the most frequented streets.

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* The difference in the unit of cost is only apparent, as the 10-per cent. tax which the company has to pay the city on its gross receipts has, in the price for Unter den Linden, already been deducted, while it is included in the 40 pfennigs paid on Leipziger street. In reality the lighting on Unter den Linden is cheaper in that, in accordance with contract, each arc lamp has a 2,000-candle brilliancy, while those on Leipziger street have only 800-candle brilliancy.

The number of public lanterns has increased from 13,377 on April 1, 1882, to 18,152 on the 1st of April, 1889, this being an increase of 4,775 lanterns. Of these, 17,509 flames were fed by the municipal gas works and 643 by the Imperial Continental Gas Association at the cost of the city. The latter are situated in that part of the community of Schöneberg which was taken within the city limits in 1860. The increase of lanterns in the separate years may be seen from Table 1 annexed to this report. From the same table it appears that the number of petroleum lanterns, which at the end of March, 1882, was 848, at the end of March, 1889, had grown to 1,095, an increase of 247. These lanterns are in outskirt streets, or in parts of the city where there are no buildings, or where, as in the Thiergarten and Kastanienwäldchen, they are used only for lighting promenades.

To what extent the cost of public lighting has increased during the years from 1882 to 1889 is shown in Table 1.

The use of gas for private purposes has also materially increased in the period under report. The amount of gas produced and used rose from 58,452,000 cubic metres in 1882 to 90,210,000 cubic metres in the year ended April 1, 1889, that is, an annual average increase of 4.6 per cent., which is the more remarkable as from year to year the competition of electric light with gaslight has increased. The increase in the use of gas was principally for industrial purposes, for heating, and for technical purposes. In the year 1888–'89 3,794,257 cubic metres of gas were used for these purposes, the cost to consumers being 12.8 pfennigs per cubic metre; while 68,387,757 cubic metres were used by private persons for illuminating purposes, the cost to the consumer being 16 pfennigs.

In view of the constantly increasing use of gas and of the fact that the existing gas works were rapidly nearing the limit of their yielding capacity, the erection of new—the fifth—gas works seemed to be a necessity. The rapid growth of the western and southwestern parts of the city indicated this to be the proper site for the erection of the new gas works. In the spring of 1889 a site was selected between the Ringbahn depots of Schmargendorf and Halensee for the building of new gas works with a daily capacity of from 300,000 to 350,000 cubic metres. Connected with these are to be branch works, for which a site has been selected within the limits of Charlottenburg, near the Berlin frontier.

In the meanwhile, with the increased use of gas from year to year, the other four gas works have been enlarged and improved. The pipe network has been lengthened and extended to the new quarters of the city. Simultaneously with the repairing of the streets the gas pipes have, as far as possible, been laid under the sidewalks. At the same time many weak points were repaired, and hence the waste has been considerably diminished.

What have been the expenses of the city during the period under report for the improvement of gas works and the extension of pipe systems is shown in Table 2.

On April 1, 1889, the pipe lines of the municipal gas works had a length of 696,493 metres and a cubic capacity of 37,466 cubic metres; at the end of March, 1882, their length was 587,433 metres and their capacity 27,187 cubic metres.

The coal used was obtained (with the exception of a few sample purchases of English coal) from the fiscal mine at Zaborze, in upper Silesia, and from the Glückhilf mine, near Hermsdorf, in lower Silesia. The prices varied very little, ranging from 17.75 to 18 marks per ton of 1,000 kilogrammes. The coal was brought direct to the works, chiefly by railway. In the last year of the period under report 314,264 tons of coal were used.

On the whole the secondary products obtained in the manufacture of gas (coke, tar, ammoniac liquor, cleansing mass, etc.) were sold at good prices. On the average about two-thirds of the cost of the coal was obtained by the sale of these secondary products.

There was no difficulty in obtaining the necessary supply of laborers for the gas works, and wages were raised about 15 per cent.

The financial condition of the municipal gas commission is entirely satisfactory and shows a considerable surplus. Table 2 shows the amounts paid each year into the city treasury from the gas department.

While on April 1, 1882, there was paid into the city treasury by the gas department a surplus of gain of 3,986,302.31 marks, and interest on loans amounting to 465,450 marks, making a total of 4,451,752.31 marks, on April 1, 1889, in like manner, was paid into the city treasury: Interest on loans, 465,450 marks; surplus of gain, 5,049,826.46 marks; gas supplied for street lighting (11,489,208 cubic metres at 13⅓ pfennigs), 1,531,894 marks; total gain and saving to city treasury, 7,047,170.46 marks. The value of the municipal gas works at the end of March, 1889, was 47,335,878.08 marks, from which is to be deducted outside investments and loans of 14,221,959.50 marks, namely: From the loan of 1869, 2,897,613 marks; from the loan of 1875, 10,360,790 marks; securities, 585,635.85 marks; leaving balance of surplus gain due the city treasury on April 1, 1889, of 377,920.65 marks. After deducting these debts, it will be seen that communal property in the form of gas works had, at the end of March, 1889, a value of 33,113,918.58 marks; at the end of March, 1882, their value was 26,225,491.32 marks; hence the value of the municipal gas works of Berlin has, in the period under report, increased 6,888,427.26 marks.

TABLE 1.—*Berlin street-lighting statistics.*

Year.	Lamps fed from the municipal gas works.		Lamps fed from the works of the English Gas Company.		Total gas jets.	
	Number.	Increase.	Number.	Increase.	Number.	Increase.
From April 1, 1882, to March 31, 1883	13,660	724	454	13	14,104	737
From April 1, 1883, to March 31, 1884	14,107	447	473	19	14,580	466
From April 1, 1884, to March 31, 1885	14,530	423	507	34	15,037	457
From April 1, 1885, to March 31, 1886	14,947	417	519	12	15,466	429
From April 1, 1886, to March 31, 1887	15,512	565	553	34	16,065	599
From April 1, 1887, to March 31, 1888	16,519	1,007	583	30	17,102	1,037
From April 1, 1888, to March 31, 1889	17,509	990	643	60	18,152	1,050

Year.	Petroleum lamps.		Cost of lighting lamps fed by the municipal gas works.	Cost of lighting lamps fed from the works of the English Gas Company.
	Number.	Increase.	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883	883	35	1,234,786.40	40,905.95
From April 1, 1883, to March 31, 1884	949	66	1,284,574.06	42,328.78
From April 1, 1884, to March 31, 1885	977	28	*1,317,663.20	44,320.18
From April 1, 1885, to March 31, 1886	981	4	1,365,751.74	47,749.30
From April 1, 1886, to March 31, 1887	1,040	59	1,412,915.33	49,196.64
From April 1, 1887, to March 31, 1888	1,064	24	1,501,519.33	52,680.02
From April 1, 1888, to March 31, 1889	1,095	31	1,531,894.00	54,485.93

Year.	Cost of erecting new gas lamps.	Cost of lighting petroleum lamps, including new petroleum lamps.	Cost of electric lights.	Total cost of public lighting.
	Marks.	*Marks.*	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883	22,734.61	46,020.05	†40,000.00	1,384.537.01
From April 1, 1883, to March 31, 1884	28,623.08	53,763.79	†46,727.38	1,456,017.09
From April 1, 1884, to March 31, 1885	50,419.66	52,263.88	†25,427.63	1,490,094.55
From April 1, 1885, to March 31, 1886	35,770.78	53,511.25	‡15,425.80	1,518,208.77
From April 1, 1886, to March 31, 1887	54,530.12	54,505.13	†29,149.90	1,600,297.12
From April 1, 1887, to March 31, 1888	67,253.12	56,885.18	†29,372.09	1,707,709.74
From April 1, 1888, to March 31, 1889	68,056.75	55,881.08	§86,843.43	1,797,161.10

*Since April 1, 1884, the cost of gas used for public lighting has not been paid from the city treasury to the gas commission.

† For the thirty-six arc lamps in Potsdamer Platz and Leipziger street, from September 20, 1882.

‡ From December 1, 1885, to March 22, 1886, there was no electric light.

§ For lighting Potsdamer Platz and Leipziger street, 28,940.13 marks; for lighting Unter den Linden etc., 57,903.30 marks; total, 86,843.43 marks.

TABLE 2.—*Report on street-lighting in Berlin.*

Year.	Population.		Outlay.		
	Number.	Increase.	Extension and improvement of gas works sites.	Extension of works, buildings, apparatus, and pipes.	Total.
		Per cent.	*Marks.*	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883	1,196,205	4.2	— 748.86	422,396.01	421,647.15
From April 1, 1883, to March 31, 1884	1,232,716	3	1,467.67	456,783.13	458,250.80
From April 1, 1884, to March 31, 1885	1,271,677	3.1	200,848.83	249,176.04	450,024.87
From April 1, 1885, to March 31, 1886	1,315,287	3.4	50,819.36	1,224,401.82	1,275,221.18
From April 1, 1886, to March 31, 1887	1,362,458	3.4	449,570.65	1,370,787.46	1,820,358.11
From April 1, 1887, to March 31, 1888	1,416,373	3.9	3,961.38	2,015,174.68	2,019,136.06
From April 1, 1888, to March 31, 1889	1,470,288	3.8	—7,753.02	1,135,140.00	1,127,386.98

Year.	Gas production.			Highest consumption of gas on 1 day.		
	Quantity.	Increase.		Quantity.	Increase.	
		Quantity.	Per cent.		Quantity.	Per cent.
	Cu. met.	*Cu. met.*		*Cu. met.*	*Cu. met.*	
From April 1, 1882, to March 31, 1883.	68,452,000	2,463,000	3.73	358,500	8,500	2.4
From April 1, 1883, to March 31, 1884.	70,556,000	2,104,000	3.07	375,500	17,000	4.75
From April 1, 1884, to March 31, 1885.	74,337,000	3,781,000	5.36	393,400	17,900	4.77
From April 1, 1885, to March 31, 1886.	77,834,000	3,497,000	4.7	408,400	15,000	3.81
From April 1, 1886, to March 31, 1887.	81,227,000	3,393,000	4.36	426,400	18,000	4.41
From April 1, 1887, to March 31, 1888.	86,415,000	5,188,000	6.39	453,100	26,700	6.26
From April 1, 1888, to March 31, 1889.	90,210,000	3,795,000	4.4	470,400	17,300	3.82

Year.	Gas jets fed from municipal gas.					
	Public.			Private.		
	Number.	Increase.		Number.	Increase.	
		Number.	Per cent.		Number.	Per cent.
From April 1, 1882, to March 31, 1883	13,660	724	5.6	649,175	8,100	1.02
From April 1, 1883, to March 31, 1884	14,107	447	3.2	661,372	12,197	1.9
From April 1, 1884, to March 31, 1885	14,530	423	3	682,697	21,325	3.2
From April 1, 1885, to March 31, 1886	14,947	417	2.9	707,113	24,416	3.6
From April 1, 1886, to March 31, 1887	15,512	565	3.6	734,223	27,110	3.8
From April 1, 1887, to March 31, 1888	16,519	1,007	6.49	766,121	31,898	4.3
From April 1, 1888, to March 31, 1889	17,509	990	5.8	799,059	32,938	4.3

TABLE 2.—*Report on street-lighting in Berlin*—Continued.

Year.	Total capital invested.	Amount of capital per 1,000 cubic metres of gas produced.	Renovation fund.	Amount of renovation fund used for improvement of building and apparatus.
	Marks.	*Marks.*	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883	37,464,992.27	547.32	1,104,424.83	1,350,933.75
From April 1, 1883, to March 31, 1884	37,923,243.07	537.49	1,102,545.72	801,112.60
From April 1, 1884, to March 31, 1885	38,373,267.94	516.21	100,000.00	357,137.35
From April 1, 1885, to March 31, 1886	39,648,489.12	509.40	842,956.00	415,821.03
From April 1, 1886, to March 31, 1887	41,468,847.23	510.53	853,398.18	332,921.08
From April 1, 1887, to March 31, 1888	45,487,983.29	503.24	877,137.59	377,433.25
From April 1, 1888, to March 31, 1889	44,615,370.27	494.57	949,267.69	249,429.33

Year.	Amount used or available for improvement of the systems.		
	From renovation fund after deducting outlay for improvements.	From new loans.	Total.
	Marks.	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883		421,647.15	421,647.15
From April 1, 1883, to March 31, 1884	301,433.12	155,350.01	456,783.13
From April 1, 1884, to March 31, 1885		450,024.87	450,024.87
From April 1, 1885, to March 31, 1886	427,134.97	760,000.00	1,187,134.97
From April 1, 1886, to March 31, 1887	520,477.10	1,715,000.00	2,235,477.10
From April 1, 1887, to March 31, 1888	499,704.30	1,793,041.99	2,292,746.29
From April 1, 1888, to March 31, 1889	699,838.36	391,853.20	1,127,386.98

Year.	Total book value of gas works at close of business year.	Outside capital	Municipal investment in gas works.
	Marks.	*Marks.*	*Marks.*
From April 1, 1881, to March 31, 1883	40,260,386.07	13,264,963.23	26,995,422.84
From April 1, 1883, to March 31, 1884	40,727,254.43	12,808,843.88	27,918,410.55
From April 1, 1884, to March 31, 1885	41,250,028.32	12,935,105.32	28,314,923.00
From April 1, 1885, to March 31, 1886	42,565,807.66	13,138,436.77	29,427,370.89
From April 1, 1886, to March 31, 1887	47,724,524.27	17,343,878.88	30,380,649.39
From April 1, 1887, to March 31, 1888	46,157,525.60	14,527,941.80	31,629,583.80
From April 1, 1888, to March 31, 1889	47,335,878.08	14,221,959.50	33,113,918.58

TABLE 2.—*Report on street-lighting in Berlin*—Continued.

Year.	Amount received by city treasury from the gas works.		
	Interest on capital arising from former surpluses.	Gain surplus.	Total.
	Marks.	*Marks.*	*Marks.*
From April 1, 1882, to March 31, 1883	465,450	4,353,058.80	4,818,508.80
From April 1, 1883, to March 31, 1884	465,450	4,727,916.09	5,193,366.09
From April 1, 1884, to March 31, 1885	465,450	4,639,623.26	5,105,073.26
From April 1, 1885, to March 31, 1886	465,450	4,442,122.96	4,907,572.96
From April 1, 1886, to March 31, 1887	465,450	4,588,761.46	5,054,211.46
From April 1, 1887, to March 31, 1888	465,450	4,613,158.42	5,078,608.42
From April 1, 1888, to March 31, 1889	465,450	5,049,826.46	5,515,276 46

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, March 9, 1891.

COMMERCE OF PORTO RICO IN 1889.

REPORT BY CONSUL STEWART, OF SAN JUAN.

EXPORTS.

As compared with the year 1888, there is an increase of $1,095,560 in the value of the exports, due to the larger production of tobacco and sugar, the increased export of cattle, and the higher prices of coffee. The estimated value of the year's exportation is $11,066,683.

Sugar.—The production and exportation of this article exceeded that of the preceding year by 1,623 tons. Of the 63,610 tons exported, the United States received 38,724 tons; Spain, 14,039 tons; England, 9,002 tons; and Denmark and Cuba, the remainder.

Coffee.—There was a falling off in the production of this article of 6,234 tons, but the increase in the price more than made up the difference. The total amount exported was 15,891 tons, distributed as follows: Cuba, 6,231 tons; France, 3,339 tons; Germany, 2,474 tons; Spain, 2,118 tons; Italy, 1,157 tons; and the United States, Austria, England, Denmark, Holland, and San Domingo, the remainder.

Molasses.—There was a decrease of 399 tons in the exportation of this article on account of a larger consumption in the manufacture of rum. There were 20,703 tons exported, of which the United States received 17,949 tons; England, 2,532 tons; and Spain, the remainder.

Tobacco.—The crop exceeded that of last year by 1,991 tons. The total amount exported was 3,509 tons, 2,597 tons going to Spain, 483 to Germany, 395 to Cuba, 13 to Denmark, 7 to France, 6 to Portugal, 4 to England, 1 to the United States, and the remainder to San Domingo, Venezuela, Holland, and Belgium.

Cattle.—The exportation was greater this year than last by 444 head. The number exported was 6,531, the French West Indies taking 65 per cent.; British West Indies, 18 per cent.; St. Thomas, 13 per cent.; and Cuba and San Domingo, the remainder.

Other articles.—These include hides, tallow, salt, lumber, guano, cocoanuts, oranges, etc., of which 405 tons of hides were sent to Spain and Germany; 149 tons of tallow to Spain, Cuba, and Germany; 506 tons of salt to Cuba, and $19,880 worth of cocoanuts and oranges to the United States. The estimated value of all other articles of export was $198,665.

IMPORTS.

The value of the imports in 1889 was $335,445 less than those of 1888. The total importation of $14,177,557 was divided as follows: Spain, $3,920,147; United States, $3,778,015; England, $3,109,433; Germany, $1,477,321; Cuba, $945,033; France, $444,999; Denmark, $193,055; Uruguay, Argentine Republic, Belgium, Holland, Italy, Colombia, Venezuela, etc., the remainder.

Cotton manufactures.—In these goods there was a falling off in the importation of 175 tons. The value of the entire importation was $1,770,423, Spain sending $1,073,365; England, $599,190; France, $35,076; Germany, $33,063; United States, $23,008; and Belgium, the remainder.

Woolens.—The importation of these goods in 1889 was greater than in the preceding year by $6,955. Of the total importation of $505,333, Spain sent $378,353; England, $90,151; France, $17,127; Germany, $14,006; and Belgium and the United States, the remainder.

Jute, hemp, and flax goods.—In these there was a decrease of $111,025. The total importation was $584,793, of which England contributed $301,865; Spain, $143,820; United States, $50,622; and France and Germany, the remainder.

Rice.—Rice was imported to the value of $1,718,110, principally from Germany, England, and Spain. The importation was 1,125 tons less than in 1888.

Flour.—Flour was imported to the value of $1,788,948, the United States sending $1,610,033 and Spain $178,915. This is a falling off of 879 tons.

Codfish.—The importation of codfish was valued at $441,260, Canada sending $315,948; the United States, $111,472; and Denmark, the remainder. This is an increase over last year of 2,105 tons.

Pork and hams.—Pork and hams were imported to the value of $219,032, the United States sending $214,392 and Spain, England, and Germany the remainder, a falling off from last year of 911 tons.

Lard.—Lard was imported to the value of $451,581, all from the United States, an increase of 670 tons over last year's importation.

Canned goods.—These goods were imported to the value of $152,350, Spain sending $98,344; United States, $25,929; France, $15,755; and England, Germany, and Italy, the remainder.

Cheese.—Cheese was imported to the value of $206,715, the United States sending $64,350; England, $46,683; Germany, $66,948; France, $16,853; and Spain, Holland, and Denmark, the remainder.

Other provisions.—Under this head come all articles of provisions not enumerated above, the principal of which are jerked and salted beef, butter, olive oil, vegetables, and preserved fruits and sweetmeats. The importation of such provisions amounted to $744,694, of which the United States sent $256,534; Spain, $249,249; Germany, $159,430; France, $39,059; England, $26,355; and Italy, Cuba, Denmark, Uruguay, and Argentine Republic, the remainder.

Beer, wine, and spirits.—The importation of liquors amounted to 843,242 gallons, valued at $602,233, a decrease from the preceding year of 86,346 gallons. Of wine there were 566,346 gallons, Spain furnishing 538,648 gallons; France, 22,858 gallons; and Italy, Germany, England, and Denmark, the remainder. Beer takes second place with 144,650 gallons, 74,566 coming from Germany, 28,644 from Denmark, 23,254 from England, and the remainder from the United States, Spain, and France. Brandy takes third place with 63,426 gallons, Cuba sending 29,634; France, 13,772; Spain, 7,128; Germany, 5,566; England, 5,478; and the United States and Denmark, the remainder.

Metals.—This trade shows an improvement of 559 tons over the preceding year. The value of the total importation was $540,684, of which England contributed 71 per cent.; United States, 13 per cent.; Germany, 10 per cent.; and Spain, France, and Denmark, the remainder.

Coal.—The importation of coal was 5,260 tons less than in 1888. England's contribution decreased by 5,525 tons, and that of the United States increased by 976 tons. The total importation was 11,189 tons.

Other articles.—This heading includes a great variety of articles, the principal of which are petroleum, glassware and stone and porcelain ware, oils, drugs and chemicals, soap, paraffine and stearine, paper, straw paper and boards, lumber, hoops and staves, and shoes. Petroleum, which comes entirely from the United States, was imported to the amount of 1,856 tons, valued at $148,485. Glassware and stone and porcelain ware come principally from Germany, which furnished 370 tons, chiefly of the coarser grades, 125 tons coming from Spain, 124 from England, 119 from the United States, and 67 from France, the value of the total importation being $182,955. Of the total importation of 231 tons of oils, valued at $57,890, Spain furnished 36 tons; England, 66 tons; and France, Germany, Italy, and Cuba, the remainder. Drugs and chemicals were imported to the amount of 45 tons, valued at $46,265, of which 17 tons were from the United States, 11 from France, and 5 each from England, Spain, and Germany. Out of a total importation of soap of 2,134 tons, valued at $277,430, Spain sent 2,016 tons. Paraffine and stearine were imported to the amount of 269 tons, valued at $80,815, of which England sent 90 tons; Spain, 89 tons; Germany, 68 tons; and France, 20 tons. Of paper 239 tons were imported, valued at $56,360, 82 tons coming from Spain, 53 tons from the United States, 51 tons from Germany, 22 tons each from England and France, and the remainder from Belgium. Straw paper and boards were imported to the amount of 873 tons, valued at $94,925, the United States furnishing 694 tons; Spain, 156 tons; and England, France, and Germany, the remainder. Lumber, which comes only from the United States and Canada, was imported to the value of $139,155, the former country sending 5,308,120 feet and the latter 2,724,200 feet. Hoops and staves to the amount of 9,630 tons were imported, valued at $148,055, of which the United States sent 93 per cent. Out of a total of 94 tons of shoes, Spain sent 89 tons. Machinery was imported to the amount of 648 tons, of which England sent 453 tons; Spain, 110 tons; and France, 32 tons. Belgium has sent 2,207 tons of railway material and France 8 tons. Out of a total of 78 tons of plows, England furnished 44 tons and the United States 14 tons.

SHIPPING.

Table showing number and tonnage of vessels entered and cleared.

Flag.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
British	357	168,023	435	170,053
Spanish	574	688,996	465	608,794
United States	113	77,510	153	89,843
French	102	104,361	118	89,955
German	109	179,001	69	105,018
Others	28	5,940	24	5,880
Total	1,283	1,223,831	1,264	1,062,543
Total in 1888	1,406	1,235,749	1,344	963,602

L. R. STEWART,
Consul.

UNITED STATES CONSULATE,
San Juan, February 16, 1891.

AMERICAN TRADE IN SENEGAL.

REPORT BY CONSUL STRICKLAND, OF GORÉE-DAKAR.

I took occasion recently to point out that the new duties levied here might prove quite unfavorable to the interests of American commerce.

At the date of the dispatch, however, I had conferred with no American party on the subject, and the remarks made were simply a reflection of my own judgment in the matter; but a few days later I received a letter from the agent of the American firm from Portland, Me., lately established in St. Louis, on the last page of which he casually mentioned how the new duties were already affecting his trade. The last paragraph contains the summing up of his views on the subject of the duties. The senior member of the firm in question is now on his way here to look into the condition of things as lately developed by the duties, and, in the present temper of his agent, it would seem that the business established in the beginning with considerable expense may not be of long continuance. Other American parties have communicated to me their discouragement, but some of them will doubtless keep on until a change for the better appears entirely out of the question.

It would not be so bad if this unlooked-for check to business affected only the few shipowners who run vessels here. The furnishers of goods "expressly for this market" are now numerous throughout the West and, in fact, are represented in most sections of the United States.

PETER STRICKLAND,
Consul.

UNITED STATES CONSULATE,
Gorée-Dakar, March 6, 1891.

SWISS EXPORTS TO THE UNITED STATES.

REPORT BY CONSUL ADAMS, OF HORGEN.

The Federal Government at Berne has just issued a table compiled from the returns of the United States consulates, showing the exportation from Switzerland to the United States from 1864 to 1890 and from each consular district for 1889 and 1890, a copy of which is subjoined.

During this period of 27 years the chief articles of export have always been the same, namely: Silk and silk goods, cotton and woolen goods, embroideries, straw and horse-hair goods, watches and watch material, musical boxes, cheese, and hides, to which, during the last 10 years or more, are to be added aniline colors. The four great articles are silks, cottons and woolens, embroideries, and watches. The exportation of embroideries, a special product of the canton of St. Gall, amounted in 1864 to 352,277 francs and rose almost without interruption to 37,554,153 francs in 1890. Silk and silk goods, manufactured in the northern and German cantons, from Basle to St. Gall, fell to 18,818,073 francs in 1867, reached a maximum of 45,122,069 francs in 1882, and declined to 25,828,437 francs in 1890, or a little more than the exportation in 1864. Watches and watch material rose to 18,312,511 francs in 1872, fell to 3,569,048 francs in 1877, and rose again to 9,948,811 francs in 1890, as against 8,477,192 francs in 1864. Musical boxes began in 1864 with a value of 72,482 francs and rose on the whole steadily to 1,558,077 francs in 1890. Cheese rose from 241,573 francs in 1864 to 4,642,251 francs in 1890. The articles whose exportation increased most steadily—embroideries, musical boxes, and cheese (Emmenthal, Gruyère, and Sago)—are special products of Switzerland without competition in the United States. The greatest variations are in articles exposed to competition with American products—silk, watches, cottons and woolens.

The heaviest exportation is now from the consular districts of St. Gall (40,339,072 francs, nearly half of the total for 1890) and Basel (23,371,793 francs); the lowest from the districts of Berne (5,396,209 francs) and Geneva (5,369,289 francs). The total exportation rose from 37,256,642 francs in 1864, its minimum, to 101,225,747 francs in 1882 and declined to 91,571,282 francs in 1890.

Table showing the exports from Switzerland to the United States in 1890 by consular districts.

Consular districts.	Raw silk and silk goods.	Cotton and woolen tissues.	Embroideries.	Straw and horse-hair tissues.	Watches and watch materials.	Musical boxes.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
St. Gall	527,407	2,153,823	37,488,943	......	......	......
Zurich	8,036,088	174,904	65,210	1,033,462	......	......
Horgen	6,664,532	......	......	75,279	......	......
Basle	10,106,561	1,740.363	......	23,035	7,905,838	90,375
Berne	493,849	336,920	......	144,451	124,855	......
Geneva	......	......	......	......	1,918,118	1,467,702
Total	25,828,437	4,406,010	37,554,153	1,276,227	9,948,811	1,558,077

Consular districts.	Cheese.	Leather.	Aniline colors.	Miscellaneous.	Total.	
					1890.	1889.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
St. Gall	......	......	......	168,899	40,339,072	33,932,585
Zurich	......	......	......	278,292	9,587,956	7,436,242
Horgen	68,175	......	......	698,972	7,506,958	7,862,946
Basle	418,397	826,760	926,878	1,333,591	23,371,798	18,313,642
Berne	4,155,679	......	......	140,455	5,396,209	4,821,900
Geneva	......	1,177,480	3,071	802,918	5,369,289	4,670,628
Total	4,642,251	2,004,240	929,949	3,423,127	91,571,282	77,037,943

Table showing the exports from Switzerland to the United States from 1864 to 1890, inclusive.

Years.	Raw silk and silk goods.	Cotton and woolen tissues.	Embroideries.	Straw and horse-hair tissues.	Watches and watch materials.	Musical boxes.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
1864	25,451,928	1,647,335	352,277	806,700	8,477,192	72,482
1865	29,970,464	4,268,900	1,132,231	1,521,184	11,301,954	108,399
1866	31,766,072	5,173,296	3,236,138	3,179,795	13,093.408	300,108
1867	18,818,073	2,038,330	3,154,087	2,432,405	10,362,418	265,196
1868	21,197,593	1,242,910	3,050,127	2,102,497	10,469,728	344.448
1869	28,552,883	2,253,135	3,896,701	2,802,764	13,322,578	258,738
1870	35,844,786	1,194,850	6,962,403	3,884,064	16,512,162	341,148
1871	42,928,017	1,974,496	10,293,787	3,106,693	17,105,752	350,637
1872	40,760,941	2,648,277	11,437,174	1,324,750	18,312,511	441,852
1873	27,060,929	2,934,829	10,853,320	2,209,634	13,054,147	433,573
1874	25,083,566	1,460,361	16,403,314	1,609.174	12,119,941	252,817
1875	23,401,405	688,237	15,912,519	1,683,653	8,499.501	186,523
1876	26,613,469	740,531	14,580,501	2,477,846	4,809,822	141,357
1877	26,922,791	481,495	16,195,602	1,580,287	3,569,048	102,105
1878	27,601,539	751,969	16,690,107	1,201,529	3,995,716	95,679
1879	37,374,245	1,187,999	18,923,535	1,948,493	5,292,098	187,759
1880	40,414,646	1,912,382	22,549,195	2,947,789	10,143,813	261,833
1881	33,110,390	2,473,798	20,059,905	3,347,595	11,809,122	447,599
1882	45,122,069	2,824,958	28,432,728	1,584,174	13,238,489	582,799
1883	39,773,671	1,439,308	30,882,678	1,068,907	11,146,010	728,015
1884	33,464,93	1,146,249	31,563,973	815,716	7,469,704	999,385
1885	25,326,047	1,149,890	31,923,743	657,741	4,479,586	851,919
1886	24,863,565	1,864,586	35,024,181	661,258	6,682,457	1,134,775
1887	25,188,774	1,126,926	31,843,944	431,820	8,658,181	1,224,952
1888	25,780,478	1,931,492	30,300,209	762,974	9,374,935	1,244,275
1889	21,717,055	3,338,783	31,508,008	1,493,334	9,451,572	1,318,521
1890	25,828,437	4,406,010	37,554,153	1,276,227	9,948,811	1,558,077

Table showing the exports from Switzerland to the United States, etc.—Continued.

Years.	Cheese.	Leather.	Aniline colors.	Miscellaneous.	Total.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
1864	241,573	22,125	...	185,030	37,256,642
1865	490,895	...	...	486,022	40,280,049
1866	700,130	110,885	...	1,098,541	58,658,373
1867	827,647	156,734	...	1,205,428	39,260,318
1868	1,057,437	217,986	...	1,622,265	41,304,991
1869	1,268,417	44,603	...	1,531,609	53,931,428
1870	1,560,409	582,177	...	2,308,245	69,190,244
1871	1,688,322	701,374	...	2,526,602	80,675,680
1872	2,229,213	446,879	...	1,879,506	79,481,103
1873	2,068,003	426,461	...	1,350,913	60,391,809
1874	2,007,929	654,920	...	1,759,909	61,351,931
1875	1,934,282	437,621	...	2,123,614	54,867,355
1876	1,848,360	627,868	...	1,644,190	53,483,944
1877	1,675,024	479,667	...	2,019,426	53,025,445
1878	1,533,598	518,554	...	2,209,187	54,597,878
1879	1,381,269	874,462	...	2,371,841	69,541,701
1880	1,969,418	962,912	...	3,243,920	84,405,908
1881	2,350,128	1,528,675	...	4,204,554	79,331,766
1882	2,849,343	2,537,728	1,508,113	2,995,346	101,225,747
1883	3,142,142	2,622,960	570,553	2,713,733	94,087,977
1884	3,695,172	1,153,453	574,296	2,567,834	83,450,721
1885	3,015,839	665,058	577,652	2,345,439	70,992,914
1886	3,010,079	603,703	586,379	3,213,846	77,644,829
1887	3,582,021	377,342	757,278	2,565,971	75,757,209
1888	4,188,189	315,474	689,598	3,190,790	77,778,414
1889	3,744,933	270,892	931,967	3,262,878	77,037,943
1890	4,642,251	2,004,240	929,949	3,423,127	91,571,282

LYELL T. ADAMS,
Consul.

UNITED STATES CONSULATE,
Horgen, February 11, 1891.

MORMONS IN MEXICO.

REPORT BY CONSUL SAMPSON, OF PASO DEL NORTE.

Mormon colonists commenced locating in the State of Chihuahua, Mexico, 125 miles southwest of Paso del Norte and 85 miles south of Denning, N. Mex., in 1886.

In the Corralitos, Ascension, and Casas Grandes valleys they have five colonies, namely: Colonias Diaz, Juarez, San Francisco, Pacheco, and Cave Valley—the two first being the most prominent, Diaz having a population of 700 and Juarez of 500—with a total population of over 2,000. The most of these colonists have come from Arizona and New Mexico, only a few from Utah. The church at Salt Lake City is the recognized ecclesiastical head or authority. It is said that plural marriages are not permitted.

These colonists are engaged in stock-raising, manufacture of lumber, bee culture, fruit-growing, and raising of sorghum for the manufacture of sugar and sirup. The sugar beet does well there also, while sorghum grows to perfection; this is expected to become quite an industry in time. A sugar plant will be established this summer; also a cannery at no distant day; there is not one now in all Mexico. Negotiations are pending to start a cannery in this city. It will be a good investment.

The climate is very fine. Spring work commences in February. Everything has to be grown by irrigation. There is an abundance of water. Two mills are now in operation sawing lumber for market. All trades and needed professions are represented. The people seem to be happy and prosperous. They have two public schools established, with an average attendance of about 250 pupils. The colonists own about 100,000 acres of land. This is held by a corporation organized under the laws of Colorado, and known as the Mexican Colonization and Agricultural Company. No land is sold to the colonists; they are charged a nominal rent for use. No one can claim to be rich, yet all seem to be comfortably fixed.

These colonies are now remote from railroads, the nearest point being Denning, N. M. It is expected, however, that the Mexico Pacific Railroad will be completed to Ascension by August, or within 3 miles of one of these colonies.

Additions are expected to be made during the year, and a large Mormon population will soon find homes in this consular district.

A. J. SAMPSON,
Consul.

UNITED STATES CONSULATE,
Paso del Norte, March 6, 1891.

PETROLEUM TRADE OF RUSSIA.

REPORT BY CONSUL CHAMBERS, OF BATOUM.

The following statistics of the trade of Batoum for 1889 and 1890 may be of interest, showing, as they do, the increasing commercial importance of the port.

EXPORTS TO THE UNITED STATES FROM BATOUM.

Table showing the declared exports to the United States from the Batoum consulate in 1889 and 1890.

Articles.	1890.		1889.
	Quantity.	Value.	
	Tons.		
Licorice root	6,692	$254,842.09	$107,828.57
Persian wool	51	16,289.19	61,012.84
Caucasian wool	949	249,072.03	111,074.25
Turkestan wool			5,580.73
Manganese ore	7,450	96,349.66	1,512.78
Goat skins		5,175.39	542.07
Walnut wood	11	431.42	
Carpets		398.38	336.89
Total		622,558.16	287,888.33

Much of the export to the United States in 1890 was by steamer via Marseilles, Antwerp, and United Kingdom ports, but during the year nine sailing vessels with licorice root and manganese ore cleared from Batoum, and two steamers with manganese ore cleared from Poti for United States ports.

The exports of both licorice root and manganese ore to the United States in 1890 show a heavy increase over 1889. What the manganese export for 1891 will be it is impossible to say, but the prospects for a great increase in exports of licorice root seem good, as there are now three firms engaged in the business, against only one exporter in 1890.

NAVIGATION AT BATOUM.

Table showing the number and tonnage of vessels entered and cleared at Batoum in 1889 and 1890.

ENTERED.

Flag.	1889.				1890.			
	Sail.		Steam.		Sail.		Steam.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Austrian	7	3,686	66	52,084	15	8,281	73	66,964
Belgian			3	3,966			[illegible]	4,792
Danish			13	14,716			13	14,866
Dutch							2	1,472
English	1	622	215	269,407			241	314,961
French			55	73,220			56	83,075
German			29	33,839			32	39,139
Greek	88	32,347	[illegible]	17,920	98	36,520	10	9,070
Italian	12	4,409	3	3,319	8	5,669	1	1,049
Norwegian			7	9,188			12	16,281
Russian	72	7,560	90	80,448	56	7,560	178	159,400
Turkish	116	28,641	7	3,168	69	19,584	2	962
Total	296	77,265	508	561,287	246	77,614	624	712,031

CLEARED.

Flag.	1889.				1890.			
	Sail.		Steam.		Sail.		Steam.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Austrian	9	4,730	65	51,386	14	7,261	74	68,052
Belgian			3	3,966			4	4,792
Danish			13	14,716			13	14,866
Dutch							2	1,472
English	1	622	219	274,277			242	316,189
French			53	70,534			57	84,936
German			29	33,839			32	39,139
Greek	86	31,100	20	17,920	97	36,272	10	9,070
Italian	11	4,387	3	3,319	8	5,669	1	1,049
Norwegian			6	7,804			13	17,781
Russian	75	7,890	93	83,260	55	7,286	182	198,310
Turkish	115	30,198	[illegible]	3,715	66	18,693	2	962
Total	297	78,927	512	564,736	240	75,181	632	756,618

BATOUM EXPORTS AND IMPORTS.

Table showing the Batoum exports and imports for 1889 and 1890.

EXPORTS.

Articles.	1889.	1890.
	Tons.	*Tons*
Manganese	11,492	9,510
Licorice root	2,505	6,555
Wool	8,060	5,853
Corn	13,590	5,827
Wheat	360	....
Cotton	800	....
Walnut wood	2,995	3,424
Boxwood	1,966	2,066
Oak wood	930	250
Dried raisins	....	2,036
Sheepskins	....	735
Bullock skins	295	619
Goatskins	346	....
Linseed	710	447
Madder	....	270
Silk cocoons	145	521
Silk goods	270	64
Carpets	63	246
Dried guts	....	182
Dyewoods	574	....
Persian powder	93	....
Wine	18	154
Camomile flower	240	126
Pistachio nuts	....	56
Tobacco	16	47
Zinc ore	196	25
Extract of licorice	76	19
Total	45,740	39,032

IMPORTS.

Articles.	1889.	1890.
Tin plates	15,649	21,289
Lumber	35,698	56,514
Iron, machinery, etc	7,890	11,340
Iron pipes	2,390	634
Sulphur	3,340	2,324
Caustic soda	1,896	3,978
Coal	3,980	2,734
Bricks	2,430	2,365
Earthenware pipes	116	294
Tin	264	686
Lead	139	921
Nails	66	....
Copper	49	....
Pig-iron	440	....
Sheet-iron	176	....
Cement	730	1,084
Window glass	47	135
Alum	65	....
Gunpowder	25	....
Lime	....	930
Total	75,390	105,228

PETROLEUM TRADE.

The Russian petroleum trade in 1890 shows a marked increase over 1889. The production of crude oil, as will be seen from statistics herewith, averaged nearly 80,000 barrels per day, against a trifle over 68,000 barrels in 1889—a very material increase, notwithstanding which the price of crude oil at wells steadily advanced until it reached at the end of July the equivalent to about 50 cents per barrel of 42 gallons. Owing to the low prices in foreign markets and the great advance in the value of Russian currency (as against foreign exchange), the price of refined did not advance proportionately with crude, and the high price of 50 cents per barrel was not maintained for any length of time; in fact, it is doubtful if any crude was sold at that price, but much was sold at from 35 to 40 cents per barrel, and that price maintained, notwithstanding the decrease of production in the last half of the year, until the Volga navigation closed, about the end of October. The closing of Volga navigation leaves the railway to Batoum the only outlet for the winter months, and, as the demand for oil was less than the supply during November and December, the price of crude at wells declined to about 25 cents per barrel, although 30 cents was asked for contracts for the year. The production was increased in November by several flowing wells, but, as they did not last long, the December production fell off, and up to the 1st of February this year there was no material increase over the figures for December. Early in February, however, four wells commenced flowing, giving an aggregate of 50,000 to 60,000 barrels daily, and at present writing the total daily production is not less than 125,000 barrels per day. Of course, this immense increase has greatly depressed the price of crude, and it is at present quoted at about 12 cents per barrel for spot and 20 cents per barrel for a year's contract.

The high prices for crude during the past 18 months naturally greatly stimulated drilling, and on December 31, 1890, there were produced 238 wells; drilling, 130; cleaning out and drilling deeper, 46; new derricks up, 79; against 217 wells producing, 79 drilling, 29 cleaning out and drilling deeper, and 46 derricks on December 31, 1889.

It is not probable that the present immense production will be long maintained, as the large flowing wells seldom last long; but, from the volume of operations, it would seem that, providing the territory is sufficiently rich, the production of 1890 will be maintained in 1891.

The export of petroleum in 1890 was increased, but was greatly obstructed by the low prices of American oil in the foreign markets and the great advance in value of Russian currency. The value of the paper ruble, starting at about 54 cents in January, advanced to the equivalent of 65 cents in September, but gradually declined again to 56 and 57 cents in December. Of course, the purchasing power in Russia of the ruble did not increase, and the price of refined at Baku and Batoum remained about the same in the currency of the country in September as in January, or at least declined very little; and the appreciation of the ruble (as against foreign values) was equivalent to an advance of 20 per cent. in price, and, under the circumstances, it was asserted by exporters that business at these prices resulted in a loss. The statistics herewith show a total increase in the output of all petroleum products in 1890 over 1889 of 36,342,075 gallons, of which 4,064,840 gallons went to Russia, leaving the increase in exports 32,277,235 gallons, of which 12,122,735 gallons were crude, crude residuum, and lubricating oils and 2,641,680 gallons illuminating oil and distillate to Austria-Hungary and Roumania (for Servia), from which countries American oil is debarred by a customs tariff discriminating in favor of Russian oil, leaving the actual increase of export of illuminating oils in competition with American oil 17,512,820 gallons. As the actual increase in the export of case oil was 19,265,355 gallons, there was a decrease in the export of illuminating oils in bulk and barrels.

That the output in 1890 was limited only by the price, and not by lack of oil or transportation facilities, is evidenced by the increase of stocks here. The railway deliveries at Batoum for the year were more than 10,000,000 gallons in excess of the output, and, notwithstanding the fact that the price of refined oil at Baku and Batoum has been steadily declining since October and for 2 months was less than the cost of production on the basis of crude prices and the railway capacity has been increased to at least 340,000,000 gallons annually, the output from Batoum has been less for the past 2 months than it was during the same time last year. Refined at present is almost unsalable here at 3¾ cents per gallon free on board steamer, because the tankage at Batoum is full (over 40,000,000 gallons), and exporters claim foreign markets are too low to justify even that price, notwithstanding sea freights were never so low in the history of the trade.

Railway transportation between Baku and Batoum, as before stated, was greatly increased by the completion of the Suram tunnel, which was officially opened for traffic in September, although the work of changing the approaches to it is not yet completed. The old track from the western end of the tunnel is used now, and, together with the line over the pass, gives the railway a capacity of not less than 340,000,000 gallons per annum. The tunnel is prepared for double track, and when the change in the contour of the western approach to it is finished and the tunnel double-tracked the capacity of the roads will be still further increased. The railway company has decided to purchase all private tank cars now in service on its line at a price equivalent to about $625 each (they cost originally more than $1,000 each), and those who do not wish to sell at this price will be given a certain time to take their cars off the road. As owners of private tank cars (there are more than 4,000 in service) were allowed a drawback equivalent to about 13 cents per barrel from freight rates, the taking over of the private tank cars will be equivalent to an advance in freight of that amount.

The following are all the statistics pertaining to the trade which I have been able to obtain:

Table showing the crude petroleum production of Balakhani, Sabunchi, and Bibi-Eibak in 1889 and 1890.

Month.	Crude, piped to refineries.	Lake oil and crude, piped and shipped by rail.	Estimated for fuel and evaporation.	Stock at wells at end of month.	Total.	Stock at wells at beginning of month.	Total production for month.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
January	1,552,030	28,226	108,456	972,668	2,661,380	730,866	930,514
February	2,189,300	22,982	146,256	1,161,163	3,519,701	972,668	2,547,033
March	2,642,450	17,401	181,200	1,073,743	3,914,794	1,161,163	2,753,631
April	2,485,282	50,107	167,532	888,645	3,591,566	1,073,743	2,517,823
May	3,006,942	53,581	195,840	722,017	3,978,380	882,645	3,089,735
June	2,429,747	78,425	163,444	337,672	3,009,288	722,017	2,287,271
Total, 6 mos.	14,305,751	250,722	962,728	5,155,908	20,675,109	5,549,102	15,126,007
July	2,273,179	14,234	152,282	202,959	2,642,654	337,672	2,304,982
August	2,218,045	6,358	148,800	104,024	2,477,227	202,959	2,274,268
September	2,099,621	7,549	140,916	158,471	2,406,557	104,024	2,302,533
October	2,171,248	7,637	146,101	175,293	2,500,279	158,471	2,341,808
November	2,057,028	5,716	138,120	467,666	2,668,530	175,293	2,493,237
December	2,101,339	4,206	140,918	573,096	2,819,559	467,666	2,351,893
Total for year	27,226,211	296,422	1,849,865	6,837,417	36,189,915	6,995,187	29,194,728

Month.	1890.			1889.		
	Average daily production.	Daily average from flowing well.	Daily average from pumping well.	Average daily production.	Daily average from flowing well.	Daily average from pumping well.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
January	62,275	6,654	55,261	47,459	....	....
February	90,965	35,800	55,165	56,404	....	....
March	88,827	29,212	59,615	60,836	....	....
April	81,473	23,080	58,393	64,171	....	....
May	99,669	37,533	62,136	65,287	....	....
June	76,242	14,200	61,942	89,827	....	....
Average, 6 months	83,569	24,303	59,266	60,439	....	....
July	74,354	11,952	62,402	79,294	11,600	67,694
August	73,363	5,000	68,363	87,969	23,097	64,872
September	76,751	5,464	71,287	76,551	9,956	66,595
October	75,542	6,160	69,382	66,778	3,950	62,828
November	83,108	14,356	68,752	77,258	18,085	59,173
December	75,867	8,625	67,242	68,894	14,210	54,684
Average for year	79,985	16,376	63,609	68,341	....	....

NOTE.—In barrels of 42 gallons.

Total shipments of Russian petroleum products from Batoum in 1889 and 1890.

Whither exported.	Crude and residuum.		Lubricating oil.		Illuminating distillate.	
	1890.	1889.	1890.	1889.	1890.	1889.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Austria:						
Fiume			822,825	13,250	17,046,885	20,529,830
Trieste	44,165	8,800	366,300	403,700	5,935,510	1,112,305
Belgium	3,213,715	625,300	4,716,050	783,900		78,900
Bulgaria			3,250			
England	694,200	628,750	868,050	346,000		
France	2,081,100	2,099,535	7,541,020	6,141,860		
Germany	50,000	59,550	4,889,435	1,966,750	25,000	1,525,990
Holland	98,550	63,800	142,500	594,950		13,500
Italy			299,150	102,250		
Roumania	101,220		143,450	139,500	1,635,155	
Spain				5,000	303,150	
Turkey			32,600	6,600		
Africa			3,750			
Greece			500			
Norway				2,600		
Total	6,282,950	3,485,735	19,831,880	10,506,360	24,945,700	23,260,525
Russia	657,230	663,950	677,550	128,300	1,803,915	145,000
Total shipments	6,940,180	4,149,685	20,509,430	10,634,660	26,749,615	23,405,525

Whither exported.	Refined oil.		Total.	
	1890.	1889.	1890.	1889.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*
Austria:				
Fiume	1,750	726,695	17,871,460	21,269,775
Trieste	6,355,395	8,372,150	12,701,370	9,896,955
Belgium	10,145,690	12,358,735	18,075,455	13,846,835
Bulgaria	1,167,530	1,104,320	1,170,780	1,104,320
Cochin China	673,830	718,100	673,830	718,100
China	7,733,090	8,276,110	7,733,090	8,276,110
Egypt	6,418,390	8,153,840	6,418,390	8,153,840
England	35,953,285	33,304,620	37,515,535	34,279,370
France	805,000	194,000	10,427,120	8,435,395
Germany	2,121,110	3,220,460	7,085,545	6,772,750
Holland	2,163,500	1,518,070	2,306,000	2,113,020
India	33,030,870	23,722,600	33,030,870	23,722,600
Italy	11,853,645	11,362,170	12,251,345	11,541,720
Malta	718,825	267,150	718,825	267,150
Roumania	2,100,715	1,144,210	3,980,540	1,283,710
Spain	105,000	50,000	408,150	55,000
Turkey	22,591,100	20,752,130	22,623,700	20,758,730
Japan	7,332,410	7,180,800	7,332,410	7,180,800
Java	13,181,510	5,245,100	13,181,510	5,245,100
Siam	721,380	592,730	721,380	592,730
Manila	2,362,670	700,000	2,362,670	700,000
Africa	287,000	387,090	290,750	387,090
Greece			500	
Norway				2,600
Total	167,820,695	149,351,370	218,881,225	186,603,990
Russia	18,236,940	16,373,545	21,375,635	17,310,795
Total shipments	186,057,635	165,724,915	240,256,860	203,914,785

Table showing exports of petroleum products from Russia in 1888 and 1889.

Whence exported.	Illuminating products.		Other products.	
	1888.	1889.	1888.	1889.
By sea.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Batoum	129,654,485	172,511,895	13,888,625	13,992,095
Baltic ports	13,832,845	8,850,000	4,734,685	5,405,000
Baku to Persia	1,300,455	2,311,721	2,078,660	859,830
Total	144,787,785	183,673,616	20,701,970	20,256,925
By rail.				
Warsaw	8,035,000	11,675,000	590,000	1,410,000
Radjiwiloff	10,000	....	5,000	....
Wolochisk	375,000	185,000	190,000	175,000
Wirbollen	495,000	450,000	15,000	....
Meav	1,795,000	2,280,000	5,000	....
Alexandroff	300,000	....	....	....
Sosnovitza	1,310,000	....	10,000	20,000
Other points	195,000	445,000	330,000	80,000
Total	12,515,000	15,035,000	1,145,000	1,685,000
Grand total	157,302,785	198,708,616	21,846,970	21,941,925

Whence exported.	Total.		Increase or decrease in 1889.
	1888.	1889.	
By sea.	*Gallons.*	*Gallons.*	*Gallons.*
Batoum	143,543,110	186,503,990	+42,960,880
Baltic ports	18,567,530	14,255,000	− 4,312,530
Baku to Persia	3,379,115	3,171,551	− 207,564
Total	165,489,755	203,930,541	+38,440,786
By rail.			
Warsaw	8,625,000	13,085,000	+ 4,460,000
Radjiwiloff	15,000	....	− 15,000
Wolochisk	565,000	360,000	− 205,000
Wirbollen	510,000	450,000	− 60,000
Meav	1,800,000	2,280,000	+ 480,000
Alexandroff	300,000	....	− 300,000
Sosnovitza	1,320,000	20,000	− 1,300,000
Other points	525,000	525,000	....
Total	13,660,000	16,720,000	+ 3,060,000
Grand total	179,149,755	220,650,541	+41,500,786

JAMES C. CHAMBERS,
Consul.

UNITED STATES CONSULATE,
Batoum, February 20, 1891.

AMERICAN FLOUR TRADE IN GLASGOW.*

REPORT BY CONSUL BROWN.

For some time past I have been cognizant of conditions in relation to the transportation of an important export product of the United States—that of flour—which, if not remedied, and that too in the near future, must result in a serious falling off, if not the distraction, of that branch of the export trade of our country, at least so far as Glasgow and Great Britain are concerned. The importance of that trade to the American producer is well known. This ruinous handicapping of the flour export trade of the United States has been especially impressed upon me recently. The business is so seriously hampered by the unreasonable conditions imposed by the transportation companies that representatives of the Glasgow Corn Trade Association have lately called upon me urging that something might be done to save the trade from ruin, and at the same time presented a written statement of their grievances graphically set forth and supported by documentary proofs.

A recital of a few of the facts presented by these gentlemen, together with the exhibits herewith inclosed, will be found, I trust, a sufficient excuse on my part for calling the attention of the Department to the danger of loss to our people by the breaking down of an export trade of great magnitude. I may remark, as indicating the importance of the trade, that certainly no fewer than 1,250,000 sacks of American flour of 280 pounds each were bought by Glasgow dealers alone last year. I am assured that this very large total would have been much larger but for the conditions hereafter mentioned. Similar conditions do not exist as to the importations of Hungarian and other than American flour.

It will be noticed, by reference to the communication of the committee above referred to, herewith inclosed, that the bills of lading furnished by the transportation companies, and which the American miller is compelled to accept, are primarily the cause of all the complaint, because they are so worded that said companies are practically absolved from all liability, save only to deliver the goods at some future time—a very remote time, it often turns out—and in such a condition as chance may find it. Samples of the kinds of bills of lading made use of by several companies, all substantially alike, are herewith sent. The courts on this side, I am told, hold the parties to the strict wording of the bills of lading. While our own courts hold that transportation companies can not absolve themselves from the usual liabilities of common carriers through bills of lading, however carefully drawn for that purpose, the receivers here, being so far away, are practically helpless in cases where the fault is with the carrying companies in the United States. I may add that I believe that in a majority of cases the delay and loss is occasioned by the ocean carrying companies. I visited a warehouse a few days ago, when my attention was called to 27 sacks of flour out of a single shipment—and a small one at that—from each of which, owing to careless handling (no other reasonable cause could be assigned), 50 to 200 pounds of flour had been lost; yet no redress is obtainable, and if the consignee asks for damages he is informed that by the terms of the bill of lading they (the transportation company) are not liable, and payment is declined. But by far the most serious cause of complaint appears to be the delay of transit, numerous examples of which are herewith furnished.

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*See Consul-General New's report on the same subject in No. 127, for April.

It appears that these bills of lading are so worded that the receiving railway company has the privilege of forwarding by any line of steamers they choose and has actually, in some cases, shipped the flour to some other port than that of final destination, from thence to be transshipped to this port; nor are they bound to deliver the goods within any specified time. It is a common occurrence for consignments of flour from any of the interior shipping points of the United States to be from 100 to 200 days in transit, and in many cases a much longer time elapses after shipment before the flour is received.

The terms of all purchases are 60 days after sight (of the bills of lading), say 70 to 75 days after shipment of the flour.

It is not difficult to understand that, when the buyer here, in addition to all the other drawbacks and losses, must calculate on lying out of the use of his money for from 3 to 6 months, and at the same time buy so as to provide against fluctuations and possible decline of value, he must provide a wide margin (paid, in fact, by the producer in America) or go out of the business altogether. Of the hundreds of examples of delays herewith given (exhibit "C"), I desire to call particular attention to a part of the same exhibit, but marked "D," submitted by Messrs. Bruce & Wilson, where it is shown that £4,820 19*s.* 11*d.* (nearly $25,000) have been paid for flour shipped from the United States, ranging in dates of shipment from November 30, 1889, to November 24, 1890, of which, up to this date (February 20, 1891), not a single sack has been received, and they have no knowledge as to the time of probable arrival.

One would think that the transportation companies would realize that such conditions are "killing the goose that lays the golden egg" for them; but the facts remain the same. I have but to call your attention to the inclosures as follows: Statement of committee, marked "A;" sample bill of lading, marked "B;" evidence of delay in transit, marked "C;" special, marked "D;" sample bill of lading desired by shippers and purchasers, marked "E."

L. W. BROWN,
Consul.

UNITED STATES CONSULATE,
Glasgow, February 21, 1891.

LETTER OF THE GLASGOW CORN TRADE ASSOCIATION TO CONSUL BROWN.*

[Inclosure in Consul Brown's report.]

GLASGOW, *February 4, 1891.*

SIR: The undersigned have been appointed by a committee of the Glasgow Corn Trade Association to appear before you for the purpose of drawing your attention, as consul of the United States of America at our port, to the numerous grievances importers of flour have to contend with in the conduct of their business with your country, and we respectfully ask your assistance in our efforts to have them removed.

It may be well to explain to you the method under which the transactions are completed, although we have no doubt you are already well informed on the subject.

When flour is sold by American millers to British buyers, the terms of settlement almost invariably are by draft at 60 days sight, to which are attached bill of lading for, and insurance certificate on, the flour covered by the draft. These documents are given up only on maturity of the draft, or, if required earlier through the arrival of the goods, on payment of the amount, less rebate for the unexpired time. It will therefore be seen that the American miller has absolutely no risk of making bad debts; therefore, it is incumbent on him to give his customer a good title to his property; but, under existing circumstances, he does not do so.

Individual importers have for years made claims upon the transportation companies for losses they have sustained, and for which they think the carriers should be responsible, but, owing to the terms of the bills of lading, importers are invariably left without redress. Last year, however, the grievances became so clamant that a convention of Liverpool, London, Bristol, and Glasgow corn trade associations, with representatives from Dublin and Belfast, was held in Liverpool to endeavor to arrive at a general agreement in this matter, and our appearance before you is the result of that meeting.

The bills of lading upon which nearly all flour is shipped are issued from western points and signed by an agent on behalf of the railroad company and of said steamer or steamship company severally, but not jointly. This signature may be binding on the American transportation company, but when receivers here raise a claim against the steamship company they are met with the defense that the party attaching the signature to the bill of lading had no authority from them to do so and decline to accept any responsibility.

Frequently a portion of the quantity signed for is never shipped, and instances can be given where flour has been sold by the American railroad companies on account of damage, without any advice being given either to the shipper of the goods or receiver here.

It will be seen from these bills of lading that all through the documents they are assumed to be mutual agreements, and the highest court of our realm has decided that by the clause, "In accepting this bill of lading, the shipper, owner, and consignee of the goods and the holder of the bill of lading agree to be bound by all of its stipulations, whether written or printed, as fully as if they were all signed by such shipper, owner, consignee, or holder," the contract is binding on the receivers.

The absurdity of this clause will be apparent by reference to a clause reading: "It is also agreed that, in case the whole or any part of the property specified herein be prevented from any cause from going on the first steamer of the line above stated leaving after the arrival of such property at said port, the railroad company or its connections shall be at liberty to forward the same by succeeding steamers of said line, or, if deemed necessary by them, in the steamers of any other line." According to that clause, they are not bound to ship by the line named in the bill of lading, and frequently shipments come forward by other lines than the one specified. It is a question whether by this action insurance certificates are not rendered invalid.

When the receivers' position in terms of the following clause, "The property covered by this bill of lading is subject to all the conditions expressed in the customary forms of bills of lading in use by the said steamships or steamship companies at time of shipment," is considered, it is evident that the shipper has accepted on his (receiver's) behalf a bill of lading which incorporates a document the terms of which can not be known, as every ocean carrying company has a form of bill of lading of its own.

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*The publication of the other inclosures in Consul Brown's report was not deemed necessary.

As to the clauses exempting the carriers from responsibility, we do not think it necessary to do more than call your attention to some of the more glaring ones. "Not responsible for loss or damage by dirt, wet, fire, or loss of weight, nor shall the railroad company nor any of its connections—inland or ocean—be liable for any delay, nor shall they or any of them be liable for said goods, otherwise than as warehousemen."

Too often considerable portions of the goods signed for are tendered soiled by dirt, torn by careless handling, burst, and the bags occasionally half empty. The above clause entirely precludes the receiver of the goods from recovering loss from above causes, even though the damage has been caused entirely through careless handling.

This clause also protects the carriers from responsibility for unreasonable delay in transit. By far the most serious and irritating cause of loss, as well as one of the greatest impediments to the development of the American flour trade, is the great irregularity of time goods take in transit. Sometimes goods come from points as far west as St. Louis and Minneapolis to our port in 21 days, while other parcels from same points take 3, 4, 6, and even more than 8 months. It is impossible for the American miller, therefore, to regulate his shipments in such a way as will enable him to compete in the matter of regularity of delivery with his competitor, the local miller, who can satisfy the wants of his buyer from day to day.

We may also mention that Continental millers shipping here can regulate their shipments much more satisfactorily. American millers are consequently placed in this respect at a great disadvantage, not only as against local millers, but as compared with shippers of flour from all other parts of the world.

There ought to be a limit to the time allowed the transportation companies for shipment from the seaboard, and we are of opinion that 30 days from date of bill of lading would be a reasonable period.

"Thieves, vermin, barratry of mariners, restraints of princes and rulers or peoples and resulting from strikes or mobs, sweating; insufficiency of package in size, strength, or otherwise; leakage, breakage, pilferage, wastage, rain, spray, rust, frost, decay, hook marks or injury from hooks, stowage; contact with, or smell or evaporation from, any other goods; inaccuracies in obliteration; insufficiency or absence of marks, numbers, or addresses, or description of goods shipped; injury to, or soiling of, wrappers or packages, however caused; lighterage to or from the vessel, transshipment, jettison, explosion, heat; fire, at sea or on shore, at any time or in any place; boilers, steam, machinery (including consequences of defect therein, or damage thereto); collision, stranding, heeling over, upsetting, submerging, or sinking of ship in harbor, river, or at sea, or admission of water into the vessel, straining, or other perils of the seas, rivers, navigation, or land transit, of whatever nature or kind, and however caused; and all damage, loss, or injury, arising from the perils or things above mentioned, and whether such perils or things arising from the negligence, default, or error in judgment of the pilot, master, marines, engineers, stevedores, or other persons in the service of the shipowner, or whether occurring previously or subsequently to the vessel's sailing, or by unseaworthiness of the ship at or after the commencement of the voyage (provided all reasonable means have been taken to provide against such unseaworthiness) always excepted. With liberty to sail with or without pilots, to make deviation, and to call at any intermediate port or ports for any purpose, and to tow and assist vessels in all situations. With liberty, in the event of the steamer putting back, or into any port, or otherwise being prevented from any cause from commencing or proceeding in the ordinary course of her voyage, to proceed under sail or in tow of any other vessel, or in any other manner which the shipowner shall think fit, and to ship and transship the goods by any other vessel."

It is impossible to conceive any damage the goods could sustain under almost any circumstances that would not be covered by above exceptions.

Not content with doing all they can to exempt themselves by these clauses, the shipping companies have inserted a clause: "Porterage of the delivery of the cargo, at their option, to be done by consignees of the ship at their tariff rates at the expense and risk of the receivers of the goods." By this means they assume the right of following the goods after they are out of their custody as carriers, not merely for the purpose of preventing receivers having the opportunity of tracing damage before the goods are removed from the quays, but also for the purpose of making further profit, as this class of work is more efficiently performed at lower rates by disinterested parties.

By preventing receivers from having the goods under their control while on the quays, many cases of damage, such as contact with petroleum, palm oil, etc., are hid from the owners of the goods, and only come to their knowledge when consumers lodge their complaints. For these losses it is impossible to recover in our law courts under these bills of lading.

What is wanted is a reasonable bill of lading, which will bind the carrying companies to deliver the goods entrusted to their care in good order (perils of the sea and the act of God excepted), and by which the receiver of the freight here should be responsible for any claim that can legally be established thereon, and in which a limit of time (say 30 days from date of dispatch) is fixed for shipment from the seaboard.

We trust you will see your way to recommend your Congress to pass an act which will compel all transportation and steamship companies to issue a bill of lading more in unison with the laws of common sense than those that have hitherto been foisted on the American millers.

ZOL RINTOL,
Chairman.
JNO. McDOUGALL,
Secretary.
JAMES WILSON,
Of Bruce & Wilson.
R. HUNTER CRAIG,
Of R. Hunter Craig & Co.
W. R. FARQUHAR,
Of Farquhar Bros.
WM. MORRISON, Jr.,
Of William Morrison & Sons.
W. AREND,
Of M. Kasmack & Co.
WM. R. BALD,
Of James Bald & Co.
DAVID WELLS & CO.

EXPORT OF CEREALS FROM RUSSIA.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

According to the latest intelligence received from Odessa, the grain market is firmer, and in the second half of January business was done on an unexpectedly large scale. Such a movement has not been experienced for a long time. From the 12th to the 14th of February 144,000 bushels of wheat were sold; so that if the demand continues the stock will soon run out, inasmuch as fresh arrivals are daily decreasing.

The report of the ministry of finance, just published, shows that there has been an increase in the exports of cereals from Russia up to the present time as compared with those of last year. The period given is from the 1st of January to the 16th of February, during which time the cereals exported from the principal custom-houses of the Russian Empire amounted to 478,602 tons, as against 463,320 tons exported during the same period in 1890, as follows:

Cereals.	January 1 to February 16—	
	1891.	1890.
	Tons.	*Tons.*
Wheat	174,564	162,720
Rye	63,576	102,560
Barley	57,708	74,934
Oats	98,136	84,150
Maize	84,438	38,952

It will thus be seen that Russia is gradually increasing her export of cereals, and even a far better showing for the present year is confidently anticipated.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, March 18, 1891.

IMPORTS OF MEXICO.

REPORT BY MINISTER RYAN.

For the information of the Department, I submit herewith the official statement, as published in the Diario Oficial (the official journal of the Government), of the 3d instant, of importations by countries into Mexico during the fiscal year ended June 30, 1889, from which it appears that the total imports from all countries is $40,024,894.32, an excess over the preceding year of $3,410,455.77.

It will be seen that more than one-half of these imports, to wit, $22,669,420.71, is from the United States, as against $6,337,980.30 from England, $4,956,568.41 from France, and $2,842,932.35 from Germany.

Of the imports from the United States, $10,293,301.64 are on the free list, as against a free list of $2,050,826.75 from England, $322,379.17 from France, and $299,136.87 from Germany.

Notice is drawn to the proportion of duties to value relatively of the imports of the countries: The United States' $22,669,420.71 paid $9,169,787.87 in duties, England's $6,337,980.30 paid $5,083,870.75, France's $4,956,568.41 paid $3,846,252.66, and Germany's $2,842,932.35 paid $2,310,015.60.

It is gratifying to note that the imports from the United States exceed those of the previous year by $3,404,747.45, and it is significant that this increase substantially equals the excess of Mexico's total imports over the preceding year, to wit, $3,410,455.77.

It will be observed that of the imports from the United States the two items of cottons and nutritious substances amount to $5,949,872.41, or about one-half of all the dutiable imports from our country. These cottons, valued at $3,834,784.28, produced duties to the amount of $2,742,828.51; and the nutritious substances, consisting chiefly of farm products and manufactures thereof (but not embracing live animals or fresh meats), valued at $2,115,088.13, paid duties in the sum of $1,742,165.73.

Table showing the imports into Mexico during the fiscal year 1889.

Articles.	Arabia.		Algiers.		Australia.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Nutritious substances			$8,788.00	$14,964.46	$320.00	$82.12
Medicinal drugs and chemical products	$82.00	$24.00	4,861.70	942.61		
Sundries					165.00	134.15
Total	82.00	24.00	13,649.70	15,907.07	485.00	216.27

Articles.	Brazil.		Chile.		China.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Flax and hemp					$35.00	$9.53
Silks					19,264.00	8,235.36
Mixed					734.00	641.17
Nutritious substances			$108.00	$72.60	16,173.00	12,917.73
Stone and clay					146.00	15.68
Fancy notions					1,715.30	3,557.72
Arms, powder, and ammunition					5.00	4.42
Wood and its manufactures					30.00	10.62
Paper, cardboard, etc					145.00	3.28
Medicinal drugs and chemical products	$309.45	$230.82			918.80	668.37
Sundries					185.00	283.11
Total	309.45	230.82	108.00	72.60	39,351.10	26,346.99

Articles.	Japan.		Norway.		Persia.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Nutritious substances			$19,582.25	$18,197.57	$78.00	$56.14
Glassware and porcelain	$4.00	$2.88				
Fancy notions	32.00	29.18				
Wood and its manufactures	43.00	28.19				
Paper, cardboard, etc			11,503.95	15,114.54		
Medicinal drugs and chemical products			90.00	46.73	24.00	17.75
Sundries	16.00	4.09				
Total	95.00	64.34	31,176.20	33,358.84	102.00	73.89

Table showing the imports into Mexico during the fiscal year 1889—Continued.

Articles.	Austria.		Belgium.		Bolivia.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	$6,161.00	....	$51,114.00	....	....	....
Cottons	5,443.00	$[illegible],572.37	19,245.40	$24,933.92	....	....
Flax and hemp	415.50	593.23	19,883.24	22,842.59	....	....
Wools	2,488.50	1,565.25	53,559.00	74,720.92	....	....
Silks	151.00	142.48	30.00	111.04	....	....
Mixed	921.00	779.81	708.00	1,125.61	....	....
Nutritious substances	14,529.50	11,253.58	8,183.00	20,803.88	$550.00	$272.43
Stone and clay	18.00	25.73	1,616.00	696.91	....	....
Glassware and porcelain	13,500.00	11,244.02	3,100.00	10,903.01	....	....
Gold, silver, and platinum	....	....	11,000.00	44.14	....	....
Iron and steel	1,720.00	1,092.22	18,045.00	16,746.23	....	....
Copper and its alloys	2,514.00	1,650.80	85.00	71.69	....	....
Tin, lead, and zinc	10.00	7.35	1,244.00	679.42	....	....
Fancy notions	8,055.00	7,450.87	852.00	1,128.42	....	....
Machinery and implements	8.00	4.99	....	....	....	....
Vehicles, etc	850.00	511.25	....	....	....	....
Arms, powder, and ammunition	96.00	158.90	7,154.75	6,497.58	....	....
Wood and its manufactures	24,901.25	19,621.77	37.00	47.85	....	....
Paper, cardboard, etc	5,972.75	8,603.85	7,322.00	14,012.75	....	....
Furriers' supplies	1,542.00	716.48	1,985.00	544.36	....	....
Medicinal drugs and chemical products	3,920.00	1,681.38	2,063.00	2,005.72	50.00	5.51
Sundries	3,402.15	2,135.78	34,857.50	34,371.65	....	....
Total	96,436.65	74,014.11	242,[illegible]83.89	232,257.68	600.00	277.94

Articles.	Ecuador.		Greece.		Guatemala.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	....	....	....	....	$5,638.00	....
Cottons	....	....	....	....	1,391.25	$913.27
Flax and hemp	....	....	....	....	21.50	17.78
Wools	....	....	....	....	52.00	28.19
Silks	....	....	....	....	134.00	111.62
Mixed	....	....	....	....	34.00	15.21
Nutritious substances	$[illegible]	$[illegible]	$1,089.00	$462.66	971.69	634.28
Stone and clay	....	....	....	....	658.00	500.43
Glassware and porcelain	....	....	....	....	579.00	566.24
Iron and steel	....	....	....	....	97.98	13.94
Copper and its alloys	....	....	....	....	56.50	68.35
Tin, lead, and zinc	....	....	....	....	85.00	28.59
Fancy notions	....	....	....	....	133.00	63.82
Machinery and implements	....	....	....	....	113.00	19.19
Arms, powder, and ammunition	....	....	....	....	24.00	12.00
Wood and its manufactures	....	....	....	....	258.50	160.78
Paper, cardboard, etc	....	....	....	....	91.00	19.60
Furriers' supplies	....	....	....	....	97.00	24.01
Medicinal drugs and chemical products	....	....	....	....	850.30	342.99
Sundries	4,175.00	830.00	....	....	262.50	96.64
Total	[illegible],451.62	38,429.46	1,089.00	462.66	11,548.22	3,636.93

Table showing the imports into Mexico during the fiscal year 1889—Continued.

Articles.	Colombia.		Costa Rica.		Denmark.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	$100.00		$100.00			
Cottons	6,058.50	$7,396.31				
Flax and hemp	9.00	6.34				
Wools	10.00	11.73				
Nutritious substances	67,354.00	23,843.77	22,325.00	$6,580.29	$1,112.00	$729.75
Stone and clay	8.00	2.25				
Fancy notions	3.25	2.06				
Furriers' supplies	700.00	76.39				
Medicinal drugs and chemical products	17.00	3.50				
Sundries	3,919.00	1,293.00				
Total	78,178.75	32,635.35	22,425.00	6,580.29	1,112.00	729.75

Articles.	Holland.		India.		Italy.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	$7,901.50		$7,065.00		$10,191.00	
Cottons	70.00	$142.95			192.00	$152.65
Flax and hemp	40.00	14.30	30.00	$18.17	105.00	68.67
Wools					769.00	1,457.28
Silks					225.00	216.80
Mixed					2.00	3.15
Nutritious substances	21,375.25	14,289.78	57,877.00	121,216.33	37,499.20	20,701.85
Stone and clay					12,240.00	8,647.58
Glassware and porcelain	3,282.00	5,850.30			768.00	679.93
Gold, silver, and platinum					3,987.00	97.72
Iron and steel	86.00	246.50			226.00	142.39
Copper and its alloys					475.00	274.98
Fancy notions			40.00	1.91	17,207.00	8,337.10
Vehicles, etc					88.00	9.51
Wood and its manufactures					525.00	409.73
Paper, cardboard, etc	14.00	.33			177,451.00	76,501.51
Medicinal drugs and chemical products	1,044.00	431.88	4,573.40	2,121.39	5,676.50	2,636.24
Sundries	38,196.50	32,034.78	44.00	4.59	2,200.00	1,481.69
Total	72,009.25	53,010.82	69,629.40	123,362.39	269,826.70	121,818.78

Articles.	Peru.		Portugal.		Argentine Republic.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	$386.00					
Nutritious substances	250.00	$230.99	$8,922.00	$2,542.46	$30.00	$32.25
Medicinal drugs and chemical products	136.00	116.05				
Sundries			210.00	114.00		
Total	772.00	347.04	9,132.00	2,656.46	30.00	32.25

Table showing the imports into Mexico during the fiscal year 1889—Continued.

Articles.	San Salvador.		San Domingo.		Russia.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Cottons	$1,215.00	$1,286.12	....	....	....	....
Flax and hemp	....	....	....	....	$135.00	$45.36
Nutritious substances	9,560.00	2,756.06	$80.00	$60.12	77.00	22.67
Fancy notions	....	....	....	....	340.00	131.03
Paper, cardboard, etc	220.00	507.20	....	....	....	....
Medicinal drugs and chemical products	....	....	....	....	281.40	187.59
Sundries	320.00	115.00	....	....	....	....
Total	11,315.00	4,664.38	80.00	60.12	833.40	386.65

Articles.	Sweden.		Switzerland.		Uruguay.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Free list	....	....	$1,244.00	....	....	....
Cottons	....	....	54,995.50	$36,801.25	....	....
Flax and hemp	....	....	170.00	196.79	....	....
Wools	....	....	2,550.00	1,969.50	....	....
Silks	....	....	11,645.00	11,166.27	....	....
Mixed	....	....	2,973.75	2,825.77	....	....
Nutritious substances	....	....	19,805.00	13,267.91	$2.00	$10.00
Stone and clay	....	....	54.00	19.95	....	....
Glassware and porcelain	$257.00	$179.10	74.00	69.46	....	....
Gold, silver, and platinum	....	....	2,172.00	126.22	....	....
Iron and steel	1,192.00	1,779.49	235.00	68.45	....	....
Copper and its alloys	....	....	100.00	43.80	....	....
Fancy notions	....	....	12,635.00	4,030.64	....	....
Machinery and implements	....	....	39,780.00	14,498.87	....	....
Arms, powder, and ammunition	....	....	186.00	156.20	....	....
Wood and its manufactures	....	....	80.00	79.10	....	....
Paper, cardboard, etc	106.00	267.25	784.00	666.60	....	....
Furriers' supplies	....	....	5.00	2.43	....	....
Medicinal drugs and chemical products	52.00	69.70	4,931.00	2,118.51	....	....
Sundries	....	....	1,075.00	722.82	....	....
Total	1,607.00	2,295.53	157,444.25	89,830.54	2.00	10.00

Articles.	Turkey.		Venezuela.		Zanzibar.	
	Value.	Duty.	Value.	Duty.	Value.	Duty.
Nutritious substances	$547.00	$367.21	$73,738.25	$25,435.75	$20.00	$37.76
Fancy notions	400.00	70.57	....	....	....	....
Medicinal drugs and chemical products	1,380.00	323.51	....	....	....	....
Total	2,327.00	761.29	73,738.25	25,435.75	20.00	37.76

Table showing the imports into Mexico during the fiscal year 1889—Continued.

Articles.	Germany.		Spain.	
	Value.	Duty.	Value.	Duty.
Free list	$299,136.87	....	$448,685.30	....
Cottons	357,593.51	$401,651.18	4,776.00	$6,137.95
Flax and hemp	120,909.39	104,380.57	2,517.00	1,245.83
Wools	244,438.07	271,870.64	4,444.00	3,990.43
Silks	27,153.00	24,969.43	7,023.00	4,282.97
Mixed	43,778.49	45,218.91	820.00	825.38
Nutritious substances	160,030.48	130,812.86	940,977.66	763,051.99
Stone and clay	7,715.50	7,830.12	5,764.00	1,788.95
Glassware and porcelain	164,317.40	206,539.11	2,655.00	1,599.11
Gold, silver, and platinum	114,161.50	15,615.89	10.00	12.50
Iron and steel	227,516.64	214,532.58	1,140.00	1,171.01
Copper and its alloys	129,093.95	79,786.75	624.00	132.96
Tin, lead, and zinc	27,302.50	17,916.34	563.00	387.79
Fancy notions	204,891.89	191,435.15	6,701.00	2,446.30
Machinery and implements	30,813.25	11,573.74	76.00	48.90
Vehicles, etc	1,965.00	1,552.24	....	....
Arms, powder, and ammunition	15,536.00	7,930.14	40,785.00	20,558.62
Wood and its manufactures	98,239.15	69,696.31	1,360.00	480.27
Paper, cardboard, etc	218,394.40	296,389.29	290,763.86	216,371.60
Furriers' supplies	68,035.71	38,128.99	1,648.00	1,239.67
Medicinal drugs and chemical products	109,182.38	60,915.07	14,708.30	4,822.06
Sundries	172,727.27	111,270.29	144,901.60	146,583.01
Total	2,842,932.35	2,310,015.60	1,920,942.72	1,177,177.30

Articles.	United States.		France.	
	Value.	Duty.	Value.	Duty.
Free list	$10,293,301.64	....	$322,379.17	....
Cottons	3,834,784.28	$2,742,828.59	480,883.15	$617,793.21
Flax and hemp	80,804.05	87,116.59	65,007.94	68,378.77
Wools	380,108.90	508,782.14	560,376.50	721,704.01
Silks	72,857.20	69,501.23	228,312.90	239,203.57
Mixed	48,619.17	48,158.78	269,201.70	288,232.47
Nutritious substances	2,115,088.13	1,742,165.73	1,144,355.46	749,921.34
Stone and clay	26,287.51	15,293.50	26,366.17	5,949.51
Glassware and porcelain	243,033.83	254,651.53	159,785.20	165,907.46
Gold, silver, and platinum	36,728.10	2,956.47	152,148.00	8,741.21
Iron and steel	815,225.38	565,752.24	107,050.49	84,944.67
Copper and its alloys	261,418.45	128,139.29	131,943.01	63,493.06
Tin, lead, and zinc	20,771.05	8,981.11	15,150.03	6,949.07
Fancy notions	236,454.09	176,189.53	144,811.80	98,156.52
Machinery and implements	436,736.90	88,880.75	28,594.20	12,034.82
Vehicles, etc	191,664.20	104,141.92	18,814.00	9,844.24
Arms, powder, and ammunition	200,914.61	130,356.78	8,717.68	4,912.15
Wood and its manufactures	301,649.19	247,451.14	39,436.26	26,163.02
Paper, cardboard, etc	378,395.76	355,719.51	228,833.35	149,321.94
Furriers' supplies	188,817.53	159,460.63	140,836.00	84,433.93
Medicinal drugs and chemical products	1,184,809.29	737,287.60	269,324.85	128,334.10
Sundries	1,320,951.45	995,972.81	414,240.55	311,833.59
Total	22,669,420.71	9,169,787.87	4,956,568.41	3,846,252.66

Table showing the imports into Mexico during the fiscal year 1889—Continued.

Articles.	England.		Total.	
	Value.	Duty.	Value.	Duty.
Free list	$2,050,826.75		$13,506,230.23	
Cottons	2,768,341.11	$3,601,784.93	7,534,088.70	$7,447,394.70
Flax and hemp	383,946.90	386,654.35	674,029.52	671,590.87
Wools	364,390.25	379,920.52	1,613,186.22	1,986,020.61
Silks	27,896.50	20,573.80	394,691.60	378,614.57
Mixed	27,097.75	22,593.54	394,889.86	410,419.80
Nutritious substances	57,032.00	53,876.79	4,893,706.49	3,789,270.51
Stone and clay	1,088.50	489.88	81,815.68	41,244.81
Glassware and porcelain	16,225.75	28,677.01	607,727.18	686,884.84
Gold, silver, and platinum	687.00	373.21	320,843.60	27,967.36
Iron and steel	337,595.42	372,990.40	1,510,129.91	1,259,480.12
Copper and its alloys	66,857.00	50,563.69	593,166.91	324,225.37
Tin, lead, and zinc	10,843.34	4,340.09	75,968.92	39,289.76
Fancy notions	24,582.35	11,566.99	658,853.68	505,497.81
Machinery and implements	3,461.00	1,144.58	539,582.35	128,205.84
Vehicles, etc	415.00	147.41	213,796.20	116,206.57
Arms, powder, and ammunition	7,034.00	2,243.99	280,453.04	172,830.78
Wood and its manufactures	7,124.90	4,372.94	473,684.25	368,523.72
Paper, cardboard, etc	32,528.05	27,751.55	1,352,143.12	1,161,250.81
Furriers' supplies	10,443.30	5,585.03	414,109.54	290,211.92
Medicinal drugs and chemical products	88,545.01	52,116.35	1,697,830.38	997,449.42
Sundries	51,018.42	36,101.70	2,193,966.94	1,675,382.70
Total	6,337,980.30	5,083,870.75	40,024,894.32	22,477,962.95

This table includes only customs tariff duties. Merchandise and effects free under special concessions or per specific instructions from the treasury department have been taken into consideration upon the basis of customs dues assigned thereto in the tariff. Effects entered in the free zone are also considered with the duties under the regular tariff.

This table does not include the importations through the Altata customhouse, as the returns therefrom have not yet been received.

THOS. RYAN,
Minister.

UNITED STATES LEGATION,
Mexico, March 6, 1891.

BANKS IN HONDURAS.

REPORT BY CONSUL PETERSON, OF TEGUCIGALPA.

I have to report that on January 5, 1891, the Government of Honduras issued a charter to Mr. B. Cecil, now resident in this Republic, though a citizen of the United States, to establish a bank in the city of San Pedro Sula, in the department of Santa Barbara. The charter provides that the bank shall be known as the "Bank of San Pedro." The capital subscribed is 25,000 pesos (with the privilege of increasing to 100,000), divided into shares of 500 pesos each, to be paid in one single payment.

The bank is permitted "to issue and put into circulation bank notes, payable at sight, up to 150 per cent. of the sum subscribed."

The stock will be held principally by American citizens. It is proposed to establish correspondents in New York, San Francisco, and New Orleans.

The establishment of this bank in San Pedro Sula will be of great advantage to the business interests of the north coast of Honduras, which is the fruit-growing section of the country.

San Pedro Sula is a thriving town, 38 miles south of Puerto Cortez, and the present terminus of the line of railroad projected from Puerto Cortez to the Bay of Fonseca, on the south coast of Honduras.

This new bank, while not being in any sense a branch, will work in connection with the bank already established in Tegucigalpa.

The Bank of Honduras, in Tegucigalpa, was organized October 1, 1889, by the consolidation of the two banks which had been organized some few months previous, viz, the National Bank of Honduras and the Bank of Central America, with a paid-up capital of 400,000 pesos and an authorized capital of 1,000,000 pesos. Its president is Cypriano Velasquez and its manager Carlos Alvarado, the present minister of war of this Republic.

At a meeting of the stockholders of the bank on January 1, 1891, the paid-up capital was increased 200,000 pesos, so that hereafter the working capital of the bank will be 600,000 pesos.

At the same meeting of the stockholders mentioned above an annual dividend of 17¾ per cent. was declared upon the stock then paid up (400,000 pesos), and a reserve of 2 per cent. of the capital was put aside, making a total profit of 19¾ per cent. per annum upon the investment.

About 25,000 pesos of the stock of this bank are held by citizens of the United States.

Deposits in this bank are nominal, so that the profits are derived from the capital almost solely.

This bank has already established connections in New York, San Francisco, and New Orleans and is perfecting additional arrangements for convenient and rapid business relations with the United States.

The Government of Honduras is the best customer this bank has, though it does a general banking business and is extensively patronized by the mining companies and business men generally.

The capital (Tegucigalpa) is the center of all the financial operations of the Government, no employé or officer being allowed to pay himself or his subordinates out of funds which come into his bands by reason of his office; so this bank enjoys advantages on that account and derives profit through that source.

JAMES J. PETERSON,
Consul.

UNITED STATES CONSULATE,
Tegucigalpa, January 14, 1891.
No. 128——6.

PUBLIC IMPROVEMENTS IN HONDURAS.

REPORT BY CONSUL PETERSON, OF TEGUCIGALPA.

RAILWAYS.

Concession.—A concession has just been granted by the Government of Honduras to a French company, at the head of which is Mr. Gaubert, Honduras consul in Paris, to construct and operate a railroad from Tegucigalpa, the capital of Honduras, to San Lorenzo, on the Bay of Fonseca, a distance of about 90 miles. The principal terms of the concession are that the said company shall commence the survey of the road within 3 months from the date of the concession, commence the actual construction of the road within 6 months, and complete the road within 2 years from the date of the concession. The Government, on its part, guaranties to the company 6 per cent. per annum upon the capital actually and necessarily invested, said guaranty not to exceed the sum of 200,000 pesos per annum. The company is composed entirely of Frenchmen. It is confidently expected that this road will be built, which will give a much-needed outlet to the Pacific coast from this capital and from the mines and other interests on the Pacific slope.

Interoceanic line.—I am informed by the president, Mr. Bogran, that arrangements have been completed with the English company which owns the projected line of railroad from Puerto Cortez to Amapala, called the Interoceanic line, to repair that portion already in operation from Puerto Cortez to San Pedro Sula, and to complete it as far as Portrerillas, some 30 miles further into the interior. This will make a distance of about 70 miles from the north coast (Puerto Cortez), which will constitute the first section. After the completion of this section, it is proposed to raise a loan for the completion of another section, and so on until the entire line is finished. Mr. Bogran informs me that the engineers are already on the line, and he is confident of the success of this great improvement, which has heretofore met with so many and so serious embarrassments.

WATERWORKS.

Another public improvement of importance and benefit to the Republic is the building of waterworks for the capital. The work is being done by the Government, and the contractors are W. H. Cole and George Gibson, two American citizens. The contract price is 160,000 pesos, which includes the erection of six public fountains in this city. The water is brought from a distance of 45,000 feet and from an elevation of 5,000 feet above sea level and 1,800 feet above the city. The contract includes the laying of 65,000 feet of mains and pipes. The source of the water is the River Jutiape, and there are two reservoirs of 225,000 gallons each. The mains and piping vary from 12 to 6 inches in diameter. It is purchased by the contractors in New York. The work is to be completed by July 1, 1891.

BEER-BREWING CONCESSION.

A concession has been granted to Louis Bier, of New Orleans, giving him the exclusive right for 6 years to manufacture beer in the Republic of Honduras. There is at present no beer made in Honduras, and during the year 1889 there was consumed in this country 60,000 pesos' worth of imported beer. There are no statistics of 1890 extant yet. Mr. Bier has commenced work in getting his building ready and will shortly commence the production of beer. He has associated with himself sufficient capital, American and native, to make his project a success.

WAGON WAYS.

Another matter of importance is the building of wagon roads in this Republic. There is at present a wagon road from La Brea, the port in the Bay of Fonseca on the south, through Tegucigalpa and Comayagua, and is rapidly approaching Santa Barbara. The work will be pushed through as rapidly as possible to San Pedro Sula, when there will be a fair wagon road across the entire country. There are a number of good bridges on this road already constructed and others in process of construction.

TRADE WITH THE UNITED STATES.

The present need of Honduras is internal communication, and the pressing need of commercial relations between Honduras and the United States is the opening of these means of transportation through to the north coast. When wagon roads and railroads give to this Republic an outlet to Puerto Cortez, Truxillo, and other portions of the north coast, an increase of trade with the United States may be expected to follow as a natural consequence.

The income of this Government does not justify the expenditure of large sums of money in public improvements, but those improvements are gradually coming under the progressive spirit which has for some years actuated the administration of its affairs.

JAMES J. PETERSON,
Consul.

UNITED STATES CONSULATE,
Tegucigalpa, March 7, 1891.

COMMERCE IN CHINA IN 1890.

REPORT BY MINISTER DENBY, OF PEKING.

I have the honor to transmit a few general observations on the trade and commerce of China during the year 1890, abstracted generally from the columns of the North China News.

The passage of the silver bill in the United States created a great flurry in exchange. At some ports business was suspended for a time, and loud were the mutterings of the merchants.

Having bought goods for shipment when silver was low, and being compelled to sell exchange when silver was very high, they preferred to hold their goods until they could realize more on their drafts on London, but silver commenced to decline after a short time, and the anxiety of the merchants meanwhile disappeared.

It seems that cotton and woolen goods have held their own, and importers have done a satisfactory business. To those who had large stocks on hand the rise of silver in the autumn was a great advantage; still, the deliveries of piece goods in 1890 exceeded those in 1889.

Of cotton yarn imported from Bombay and England in 1890 there were 463,463 piculs,* as against 213,823 piculs in 1889, a very considerable increase.

In T cloth there has been a falling off. These cloths seem to be going out of favor with the Chinese.

Metals have mainly held their own, though lead is not up to last year's figures. Nail-rod iron shows an increase.

The McKinley tariff has been attacked here, as elsewhere in countries where England dominates; yet it is claimed by them, with some inconsistency, that this tariff has distinctly benefited the English trade in woolens in China. It is claimed, also, that the export trade of Germany has been injured by its protective system to the corresponding benefit of England.

The rise in silver has had a depressing effect on the export trade.

The tea trade has paid fair returns to shippers. The trade in black tea has been unusually good, but the diminution in the quantity of tea exported has been, in later years, enormous. The North China News shows the diminution by the following table:

Articles.	1890.	1885.
	Pounds.	*Pounds.*
Black tea	26,336,994	65,940,685
Green tea	4,559,527	9,310,574
Total	30,896,521	75,251,259

The American market in tea has been uncertain, but is now reassuring.

Silks bought after the rise in silver did not meet a corresponding market in Europe. The tael price did not change with the rise, and the settlements for the season are less even than they were in 1887.

The North China News states that the Shanghai stock market has been disastrously affected by the rise in silver. Stocks of all kinds have fallen in value, with the exception of the shares of the Hongkong and Shanghai Banking Corporation. At the end of December, 1889, the shares of this bank were at a premium of 186 per cent., while at the same period in 1890 the premium was 255½ per cent. This is accounted for by the fact that the bank is on a silver basis and gained immensely by a rise in exchange.

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*1 picul = 133⅓ pounds.

In Shanghai, on the 27th day of December, 1889, the rate for bank bills on demand was 4*s.* 4½*d.*, and on the 26th of December, 1890, the rate was 4*s.* 9*d.*

Altogether, it is conceded that the year has not been a bad one for business.

CHARLES DENBY.
Minister.

UNITED STATES LEGATION,
Peking, January 29, 1891.

DEPRECIATION OF LAND IN RUSSIA.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

The department of agriculture and rural industry has just published a report relative to the fluctuations in the prices of land in Russia in Europe during the period from 1860 to 1889. The information obtained and arranged by the department shows, first of all, the fact that from 1860 to 1883 the price of land had progressively increased over all the Empire, but this progress was particularly rapid in the northern and southwestern provinces, as well as in the Baltic provinces.

This proves the falsity of the statements which are heard even up to to-day touching the subject of the terrible blow given to agriculture in Russia by the liberation of the serfs. It is clear that the reform of the 19th of February, on the contrary, gave a strong incentive to the development of rural economy in Russia. The loss of gratuitous hand labor has been largely compensated by the increase in the output obtained from princely estates, and the considerable increase of revenue has justly been the cause of the rise in the price of land, whose value has more than doubled in the course of 23 years.

Since 1883 the aspect has somewhat changed, although in certain regions of the Empire the price of land still continues to increase, whereas in others it is gradually decreasing.

The provinces of the south of Russia, called the "steppes," are the first on the list to show an increase in the price of land. The price of an acre of land has been $10.15 for the 6 years ending 1889. Next come the northwestern and southwestern provinces, the industrial provinces, and those of the center of Russia. Everywhere else, especially in the north and along the littoral of the Baltic, the prices of land have fallen, thus confirming the information previously obtained by the agricultural department touching the cost of production and the sale of cereals. Effectively, in this respect, during the last years the southern, southwestern, and northwestern provinces have eluded a crisis which has affected the other provinces of the Empire, although, on an average, the depreciation of land in the north, in the provinces of the east and southeast, as well as in the provinces of the Volga and the Baltic, has not attained the degree of an imminent catastrophe; nevertheless, the space included in the retrograding movement shows the difficulties which these agricultural regions are suffering since the year 1883. The price of land is rapidly falling, and it is impossible to foresee when it will stop. The department is advised that this result should not be overlooked, for, although this decrease is proceeding with slowness, it is nevertheless of serious importance for the future of Russia.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, March 17, 1891.

COTTON-TIE MANUFACTURE IN ENGLAND.

REPORT BY CONSUL BURGESS, OF TUNSTALL.

Among the many English industries affected directly to a greater or less extent by the operation of the new tariff laws, perhaps none has been so adversely acted upon as that of the manufacture of cotton ties; and, among those interested in the manufacture of this particular article, none have been so deeply affected as the forge at the little village of Wheelock, within this consular district. The Wheelock Iron and Salt Company (limited), commonly known as the Wheelock Forge, is the only works in England that has devoted its entire energy to the manufacture of the one article—the widely known "Wheelock ties." This entire plant was built, and the machinery made, especially for this one particular branch of the iron industry. It was therefore impossible, without very great additional outlay of capital, to so alter and rearrange the plant as to make it of use for any other line of manufacture. Thus, when the late legislation was accomplished which proved so adverse to the cotton-tie interests of Great Britain, this plant was at once so deeply affected as to cause an entire suspension of operations.

At the kind suggestion and invitation of Mr. John Rigby, the managing director of the forge, I have had the pleasure of an investigation of the present status of affairs. The magnitude of the business done by this particular forge and its importance in the cotton-tie industry of this country will at once be recognized in the fact that, out of an average annual exportation of 25,000 tons, 15,000 tons were produced at this village of Wheelock. The ties are cut in lengths of 11 feet each out of No. 18 gauge iron 1 inch wide. Thirty of these ties constitute a bundle, 44 of which bundles weigh just 1 ton.

The new tariff act imposes a specific duty of 1.1 cents per pound on the band iron and an additional two-tenths of a cent per pound on band iron wholly manufactured into ties, as against an ad valorem rate of 35 per cent. under the old law. Therefore, 1 ton of such ties valued here at an average of £7, or $34.06, being dutiable at the rate of 35 per cent., would pay a duty of $11.92, while under the new law at the specific rate of 1.3 cents per pound the same ton would have to pay a duty of $29.12, or an increase of $17.20

per ton. This, at the present price of cotton ties in the United States, and there being no other market except the United States for their product, has compelled the company to close its operations.

With a plant valued at $250,000 on their hands, utterly unfit for the manufacture of any other commodity, the blow has fallen very heavily upon the shareholders. There was some talk at first of investing the additional capital required and of rearranging the plant for the manufacture of some other line of iron product. This idea, however, has been abandoned, and the directors have decided to wait and see whether the next Congress, or at least the next administration, will not so modify the tariff laws as to permit of them resuming their operations as heretofore. The cessation of operations has, as a matter of course, grievously affected the little village of Wheelock; nearly the entire village was dependent, either directly or indirectly, on this one industry. Englishmen are not like men of some other nations; they do not like to change either their abode or their particular line of work, and when it becomes a matter of necessity, as in this case, they are slow to make the change.

The weekly consumption of coal at this forge was from 600 to 700 tons of a peculiar quality mined in the neighborhood, yet almost entirely unfit for any other line of local manufacture or consumption. The question, "What shall we do with this large part of our product?" has become one of serious importance to the colliery proprietor. Being of a cheap grade and only fit for a certain line of manufacture, the question of freights has practically almost killed its sale.

In tendering this short report, I beg permission to thank Mr. Rigby for the kindness extended me and for the frankness and freeness with which he answered all my inquiries.

WILLIAM BURGESS,
Consul.

UNITED STATES CONSULATE,
Tunstall, March 13, 1891.

TRADE AT NUEVO LAREDO.

REPORT BY CONSUL-GENERAL SUTTON.

IMPORTS.

The imports into Mexico at this port for the years 1888 and 1889 have been obtained after much labor. One great trouble is that the values of these imports are in most cases very low, in many not even half the well-known value. As all pay specific duties, it is not necessary to the collection of the revenues to have the correct values given.

I am unable to compare the imports here with those at other ports, as no data have been lately published by the Mexican Government as to importations.

Free goods.—It will be noted that the "free goods" make nearly one-half of the total imports for the 2 years.

In Table 1 I have stated so much of the various items of free goods as our data would admit.

In the first year live animals amounted (in 10 months) to $290,846. The law imposing duties on live animals took effect in November, 1889, and hence the lessened imports for the following year go in under "dutiable goods."

The imports of coal are from the Indian Territory and Laredo, Tex. The proportion is about two parts of the Territory, to one of Laredo, coal.

The coaches and cars were not only for existing, but also for new, lines, as the Interoceanic, Southern, etc., and were all made in the United States.

As I have previously reported, small imports have been made of American steel rails for the Monterey & Mexican Gulf Railway.

Locomotives, lumber, and ties are all from the United States, as is nearly all the agricultural and mining machinery.

We have a growing trade with Mexico in powder, dynamite, etc., for mining, which is larger at other ports than here, because here all freight must be reloaded on to narrow-gauge cars, and this is expensive and risky with this class of goods.

Dutiable goods.—Under this head the most important item is ginned cotton, all of which comes from the United States, and mostly from Texas. This item ought to increase to $1,500,000 or $2,000,000 in 1 or 2 years.

The imports of beer, almost entirely from the United States, are not large, but increasing steadily, and the same may be said of wheat flour, lard, musical instruments, sewing machines, and furniture. Except for the very high duties, the last named could be greatly increased.

The mineral oils are mostly crude oils, imported at a low rate of duty to be refined and sold in the country.

The tobacco is all from the United States.

EXPORTS.

The exports of silver ore show an increase of nearly $1,000,000, and this, too, in spite of the silver-lead ore ruling of our Treasury Department.

The falling off in coined and bullion silver is due to local causes, such as express traffic arrangements. The Wells-Fargo Express has the greater portion of all this traffic and carries most of it out at El Paso and Eagle Pass, to connect with their own lines to New York and San Francisco.

The copper and lead are mostly in bars and sent through the United States in bond to Europe.

More than half the total Mexican export of ixtle and of goat and kid skins goes out here, and the totals of both show a slight decrease in the second year.

I call attention to the exports of deer and hog (javalí) skins, which amount to something like $100,000 and $27,000 per annum, respectively, from all Mexican ports, and substantially all sent to the United States.

There was no wool exported through this port during the last year and only $12,000 in the first year. Our import duties and the growing home market have steadily decreased this article of export, which formerly amounted to over $200,000 and has now fallen to about $25,000.

The exports of live animals have recently averaged over $500,000 per annum, substantially all to the United States. For the fiscal year ended June 30, 1890, the total exports were:

Animals.	Number.	Value.
Horses and mares	18,086	$194,822
Sheep and goats	52,836	68,676
Mules	6,901	116,394
Neat cattle	13,950	112,617
Other		7,709
Total		500,218

Of these, $3,960 went to Great Britain, $2,500 to Spain, and the balance all to the United States from points along this border.

The exports held at or about this rate until October 6, 1890, when our new tariff bill took effect, and since that time not a single Mexican horse, mare, mule, or cow has been invoiced at this office, and the same is more or less true at the other offices along this border.

The $26,333 in the exports of this place during the last calendar year comprise shipments up to October 6, 1890.

The increase of some $500,000 in the last, over the former, year shows a steady growth in the export trade of Mexico, and one which is likely to hold for the present year at least.

Table 1 gives the imports as all from the United States, but actually a considerable portion are European goods brought through the United States in bond.

It has been found impossible to exactly state the amount of these European goods, because proper data are not exacted. Bonded goods in transit for immediate exportation require no invoice in the United States. The European invoices, taken out before a Mexican consul there and sent to the consignees in this city, are often disregarded, and new ones, more carefully prepared, are taken out before the Mexican consul in Laredo, Tex. This is even more generally done as regards our own goods sent from Kansas City, St. Louis, Chicago, New York, etc. All the goods invoiced by the Mexican consul in Laredo, Tex., and all goods imported at Nuevo Laredo, Mexico, are stated as coming from the United States, but the data do not show country of origin. Our own law is so defective that our export data at Laredo, Tex., as to domestic products are almost valueless. The values stated are so low as to be very misleading. All around it has been difficult to more than approximate the division of the imports given in Table 1 into European and United States products. It is perhaps appropriate to state that this is the entry port of more European goods than any other in Mexico, except Vera Cruz, and the fees for landing certificates in this office are greater than in any other office in our whole foreign service.

FOREIGN IMPORTS IN BOND.

To show this bonded traffic I give Table 3, which shows the declared invoice values of these goods for the half year ended December 31, 1889, and for the year ended December 31, 1890, on the landing certificates presented during those periods. As, however, a certificate is often to cover goods crossed 15 to 30 days previously, the totals would not agree with those of exports from Laredo, Tex., or of imports into Nuevo Laredo, Mexico. They serve, however, to give an idea of the value and class of this traffic, in so many lines of which our own goods might profitably compete were it not for the exceptional facilities given this trade. For instance, the charges for inspection, revision, etc., have been so cut down in the United States that, by good estimates, it is done at an actual loss to our own revenues. When the bonded laws and regulations were first established, the intent was to enable our merchants to import and hold in the United States in bond large quantities of these goods, so as to sell in bond to foreign countries, and thus enable them to control a fair share of the foreign goods traffic. Nowadays, however, the greater portion comes through under immediate transportation bonds and affords very little, if any, benefit to our merchants. On the contrary, the Mexican merchant can order by cable and get these goods across our territory under more favorable conditions, in some respects at least, than he can American goods. I have been informed, and presume it to be true, that certain goods are carried from Liverpool or Hamburg to the interior of Mexico for less than similar goods are carried from New York or Chicago, and for about the same rates that are charged from St. Louis and Kansas City.

It is right and proper to give the trade in these foreign goods across our country a fair chance, but it seems to me that under the present conditions they are already favored at the expense of our own goods, which are thus shut out from their natural increased sale here by these discriminations.

Notwithstanding the increased restrictions to the commerce between the two countries imposed by recent legislation of both countries, the volume of trade is steadily increasing. The Mexican import duty of $20 on a stallion and $40 on a gelding does not burden our sellers so much as to stop the traffic in the high-grade horses which we send to Mexico; but the United States import duty of $30 on horses and mares is prohibitory on the low-grade stock hitherto imported from Mexico, being an average of 250 to 300 per cent. on the value.

Our trade in live hogs is of recent date and was growing very rapidly. The imposition of the duty has not stopped, but has hindered, its greater extension. Mexico could easily take $500,000 worth of live hogs at rates which would be profitable to producers, carriers, and dealers, as well as a positive cheapening of food to the people of Mexico. Besides the duty of $2.50 per head, an inspection tax was imposed at certain points. This, I understand, was soon removed.

A review of our trade with Mexico shows more clearly the urgent need of some reciprocal and mutually beneficial treaty regulations. There are certain articles of each country which the other urgently needs, and which can be made free of import duty, or with reduced duty in each, to the great benefit of producers, consumers, and carriers, and that, too, without loss to the revenues of either Government.

TABLE I.—*Imports at Nuevo Laredo from the United States.*

Articles.	Year ended December 31—	
	1889.	1890.
Free:		
Live animals (except geldings)	$290,846	....
Agricultural implements	33,071	$32,750
Quicksilver	15,845	82,907
Lime and cement	41,742	36,122
Piping, iron and lead	25,514	58,840
Coal, stone	186,597	409,617
Coaches, etc., for railways	513,318	582,689
Sacks (common) of jute, etc	9,986	23,286
Steel rails	302,090	322,098
Locomotives and parts	369,592	304,040
Lumber	153,042	156,354
Ties, wood	205,120	53,363
Agricultural, mining, etc., machinery	251,510	321,714
Money, Mexican silver	108,798	247,227
Powder, fuses, etc., for mines	73,526	100,070
Paper pulp	12,322	13,152
Frogs, fish plates, spikes, etc., for railways	109,725	96,278
Soda, caustic	18,672	26,487
All other articles	120,087	420,224
Total	2,841,403	3,227,218
Dutiable:		
Cotton—		
Ginned	672,014	975,928
Manufactured	196,709	377,666
Linen and hemp	15,650	28,373
Wool	55,602	53,261
Silk	9,244	14,628
Silk and mixtures	8,878	4,750
Brandy	18,400	24,122
Beer	42,275	62,105
Cocoa	15,539	28,247
Coffee	21,968	30,919
Sugar	20,948	11,250
Wheat flour	25,885	29,939
Maize	5,975	58,982
Lard	8,810	11,676
Wine	46,875	44,731
Crystal and glass	23,862	29,285
Earthenware and porcelain	24,993	19,014
Iron, steel, tin, and their manufactures	41,014	56,595
Tools for artisans	27,112	25,990
Musical instruments	15,964	18,338
Sewing machines	44,662	53,401
Furniture, wood	34,319	59,686

TABLE 1.—*Imports at Nuevo Laredo from the United States*—Continued.

Articles.	Year ended December 31—	
	1889.	1890.
Dutiable—Continued.		
Oils, mineral	$128,177	$125,789
Colors	9,043	17,571
Geldings	7,244	11,864
Fats, animal	130,758	77,589
Soaps	8,316	8,414
Perfumery	4,303	2,389
Tobacco, leaf	76,096	74,528
Candles, stearine	11,440	35,082
Horses (except geldings)	520	6,490
Hogs	8,360	34,590
Neat cattle	11,712	122,580
Mules	3,280	162
Sheep	300	9,741
All other articles	724,628	1,337,413
Total	2,500,875	3,679,486
Grand total	5,342,378	6,906,709

TABLE 2.—*Exports from Nuevo Laredo to the United States.*

Articles.	Year ended December 31—		Total.
	1889.	1890.	
Silver ore	$995,832	$1,970,592	$2,966,424
Mexican silver and bullion	992,677	558,557	1,551,234
Gold bullion		17,660	17,660
Copper	4,988	74,624	79,612
Lead	137	42,731	42,868
Ixtle	385,029	362,476	747,505
Goat and kid skins	596,026	550,423	1,146,449
Deer skins	8,683	8,096	16,779
Hog skins	10,296	8,242	18,538
Hides	58,615	35,708	94,323
Horse hair	27,893	35,359	63,252
Coffee	1,661	4,442	6,103
Wool	12,194		12,194
Crude sugar	3,763	2,904	6,667
Horses and mares	31,656	26,333	57,989
Mules	11,019	7,366	18,385
Neat cattle	936	12	948
Red pepper	21,035	12,044	33,079
Beans		8,955	8,955
Nose bags	2,331	1,157	3,488
Earthenware	909	1,211	2,120
Vegetables	985	4,906	5,891
Lime	1,969	476	2,445
Mescal	233	310	543
Chocolate	561	712	1,273
Oranges	1,548	2,573	4,121
Miscellaneous	28,629	39,218	67,847
Total	3,199,605	3,777,087	6,976,692

TABLE 3.—*Bonded goods imported at Nuevo Laredo.*

Articles.	6 months ended Dec. 31, 1889.	Year ended Dec. 31, 1890.
Caustic soda	$6,007	$24,253
Drugs and chemicals	11,523	34,[illegible]96
Dry goods (not otherwise stated)	174,511	360,758
Earthenware, glassware, etc	8,132	38,400
Fancy articles	3,888	32,130
Food products	17,122	47,764
Furniture	13,960	2[illegible],077
Fur skins	....	1[illegible]
Iron and steel and manufactures thereof	64,650	167,704
Jute bags	....	5,452
Lime and cement	6,934	11,852
Machinery	35,177	71,179
Marble	....	3,[illegible]
Miscellaneous	5,780	26,[illegible]8
Musical instruments	2,4[illegible]	10,475
Paper pulp and manufactures thereof	10,[illegible]	50,3[illegible]1
Perfumery	2,7[illegible]	3,[illegible]
Quicksilver	....	2[illegible]
Railway material	23,7[illegible]	1[illegible]3,4[illegible]7
Stearine and manufactures thereof	8,[illegible]	31,460
Steel rails	[illegible]95,735	3[illegible]8,44[illegible]
Tin cans (containing crude oil)	2,0[illegible]	3,145
Tin plate	3,445	8,650
Wines and liquors:		
United States	2[illegible]	71,44[illegible]
European	4[illegible]	7[illegible]
Total	7[illegible]	1,[illegible]

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Nuevo Laredo, March 25, 1891.

PRODUCTION OF IRON IN GERMANY.

REPORT BY CONSUL PARTELLO, OF DUSSELDORF.

Table showing the production of iron and iron castings in Germany during the month of December, 1890, with a comparative statement for the same period of 1889.

Groups or works.	Number.	Production.
Puddle, pig, and spiegel iron.		*Tons.*
Northwest German	37	64,068
East German	11	23,682
Middle German	1	....
South German	5	16,695
North German	1	690
Southwest German	8	41,251
Total	66	146,386
November, 1890	65	150,431
December, 1889	65	184,379

Table showing the production of iron and iron castings in Germany, etc.—Continued.

Groups or works.	Number.	Production.
Bessemer pig-iron.		*Tons.*
Northwest German	6	29,193
East German	1	90
Middle German	1	....
South German	1	1,470
Total	9	30,753
November, 1890	10	33,804
December, 1889	10	33,788
Thomas pig-iron.		
Northwest German	12	52,242
East German	3	12,892
North German	1	10,409
South German	7	32,661
Southwest German	4	29,817
Total	27	138,021
November, 1890	27	136,438
December, 1889	22	124,386
First quality iron castings.		
Northwest German	10	16,198
East German	7	2,530
Middle German	1	....
North German	2	2,541
South German	6	15,354
Southwest German	4	10,777
Total	30	47,400
November, 1890	28	40,711
December, 1889	27	48,970

RECAPITULATION.

	Tons.
Puddle, pig, and spiegel iron	146,386
Bessemer pig-iron	30,753
Thomas pig-iron	138,021
First quality iron castings	47,400
Total	362,560
December, 1889	391,523
November, 1890	361,384
January 1 to December 31, 1890	4,563,025
January 1 to December 31, 1889	4,387,504

NOTE.—The groups or works are composed of the following districts: Northwest German, Westphalia and Rhineland (not including Saar district); East German, Silesia; Middle German, Saxony and Thuringia; South German, Bavaria, Würtemburg, Luxemburg, Hesse-Nassau, and Alsace; North German, province of Saxony, Brandenburg, and Hanover; Southwest German, Saar district and Lorraine.

D. J. PARTELLO,
Consul.

UNITED STATES CONSULATE,
Dusseldorf, February 28, 1891.

HOW TO PLACE LOOMS.

REPORT BY CONSULAR AGENT NEUER, OF GERA.

The manufacture of woolen dress goods forming the leading industry in this district, and having attained a high degree of perfection, it appeared to me in the interest of our weaving mills to find out, and report upon, some facts in the field of technical knowledge.

To place an ordinary loom is of importance if due consideration is given to light, facilitation of work, and utility generally. Much greater stress has to be laid upon these factors in connection with Jacquard looms, inasmuch as they absorb more light, and, owing to their complicated mechanism, have to be treated with greater care than other looms.

All looms, without exception, must be practically placed if they are to answer their purpose. Special care has to be taken that they are put up in such a manner as not to unnecessarily deprive themselves or the remaining looms of light; otherwise, the weaver will not be able to avoid imperfections, and the necessary and important control of the goods is rendered difficult. Wherever it is possible, there should be assigned a window to each loom. Broad looms for corresponding articles should stand in the immediate proximity of the window, so that light is thrown directly on the texture. The first looms are always to be set up along the walls and windows; the subsequent ones of the second row, according to the more or less projecting lathes, at a distance equal to about a third or half of a loom's length forward or backward of the first row.

Were the looms—the lathes of which often extend up to 50 centimetres beyond the main body—placed parallel opposite each other, an interspace of about 1 metre between the two rows would be the consequence. The lathes, however, would be so near each other as to render a passage between the looms impossible and the addition of 60 centimetres of space indispensable. Thus it requires in all a space of about 1.6 metres between each row, more than half of which would be superfluous, though the distance from one swing frame to the other amounted to only 60 centimetres.

By means of the former and proper arrangement the lathes are from 70 to 80 centimetres in length and about 60 centimetres in breadth apart, and, while thus a more commodious passage is procured, space will be saved.

The principal passage through the loomery ought to occupy a space of from 1 to 1.5 metres in width.

With Jacquard looms the unhindered affixture of the sets of cards must be paid particular attention to. There is, however, an excellent expedient, if light or another advantage should require it. In accordance therewith, the Jacquard machine is reversed on the loom, namely, it is so placed that the operating cards and the relative pattern appear on the right, instead of the usual left, side of the beam. That the wires are inverted thereby and the twill and figures are given a contrary direction is immaterial, inasmuch as the proper qualification is restored by correspondingly turning the texture.

If looms already in use undergo a change of place, or if such a loom has fuller light on the side of the warp beam than on the table of the cloth, it appears simple and proper to turn the loom to overcome this disadvantage. Should this procedure prove impossible, however, on account of cards, then machine and harness are removed on the loom to the lighter place; the sley is cut off, the location of the beams for warp and cloth is changed, and the sley is stitched again to the other side. Between the lengthwise direction of each loom there ought to be as much vacant space as to permit a safe passage and an unhindered performance of the requisite work.

Hand looms afford an advantage, in so far as space is concerned, by admitting the application of double looms, the warp beams of which are put in a common receptacle. In this case both operators face each other while working, and the two looms consist only of one frame, in the longitudinal midst of which the necessary beams are placed.

Only a strong loom should be used for a heavy article, and a lighter loom for a less heavy article, or, in other words, the tools must be adapted to the goods produced therewith. To apply heavy looms for light articles would be impractical, in so far as they do not only diminish the light, but are much more expensive and work at too slow and unwieldy a pace. To produce a heavy article by means of a light loom is an impossibility.

As a rule, the whole of a loom should not cover less than 8, nor more than 10, square metres. The breadth and length of hand looms adapt themselves to the relative article, and the requisite space is seldom surpassed in this case. Stuffs of ordinary width require, including allowance for passage, a breadth of from 2.1 to 2.2 metres for each loom.

The height of an ordinary loom, together with attachments, may amount to from 1.65 to 2 metres, according to the height of the loomery. The aggregate height of a Jacquard loom, inclusive of machine, must not be below 2.6 metres for narrow, and 3.2 metres for broad, articles. The sets of cards forming a part of Jacquard looms ought to be so constructed as to permit their exact motion from the cylinder, a successive advance, and sufficient space for the following cards. The wires should be accurately and regularly pressed in the patterns, and the wooden or iron rails must be exactly adapted to the cards. In case of a forward and backward motion of the latter, their correct movement is especially needed, and no trouble should be spared to attain this object.

CHARLES NEUER,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Gera, March 16, 1891.

SHEEP AND WOOL IN ASIATIC TURKEY.

REPORT BY CONSUL-GENERAL SWEENEY, OF CONSTANTINOPLE.[*]

SHEEP DISTRICTS.

The whole of Asiatic Turkey may be considered as a wool-growing country, because every province of Asia Minor produces this article to a great extent. It is interesting to note that the quantity produced in every district seems to depend largely on the habits, character, and civilization of the inhabitants of the respective provinces. Thus the greatest exportation of wool in Turkey in Asia, according to the official statistics, is made from Mesopotamia, where the inhabitants are all nomads and have no other occupation than taking care of very numerous flocks of sheep and migrating during the whole year from one region to another, according to the climate and foraging conditions of the country.

FLOCKS.

Flocks of sheep are not at all as numerous in western and northern Asia Minor as in the valleys of the Euphrates and Tigris. This is, of course, due to the fact that in those parts of Anatolia the inhabitants are much more occupied in cultivating the country than traveling all the year round with their tents and flocks of sheep. A relatively higher degree of civilization and less nomad life doubtlessly prevail among the people of Anatolia than those of the desert regions of Mesopotamia.

WOOL CLASSIFICATION.

Another important point which is generally worth noticing in Asia Minor is that the quality of the wool in each district seems to be influenced by the climatic and topographical conditions of the country. Thus the wool of the flocks of sheep of the plains of Mesopotamia, and which belong to the Arabs (these people inhabit the whole of the valley of the southern Tigris and are divided into *achirets*, or tribes, to whom belong the flocks of sheep), and which pass the winter outside, owing to the mild climate of the country, is of much finer and cleaner quality than the wool of the flocks of the north, viz, of the province of Koordistan, where the severe winter obliges shepherds to keep their sheep under peculiar roofs, which are called *aghel* in Turkish, and are always inadequate to cover the numerous animals, which very often lie in dirt, and thus the wool is deteriorated to a great extent.

WOOL-WASHING.

If we continue our examination by comparing the different samples of wool, we find that it is cleaner wherever there are several small rivers which the animals could cross. Wool is free from dust when the flocks live in mountainous regions. There is, for example, a far greater amount of dust in the goats' wool coming from the plains lying east of Konieh, or Iconium, than in that coming from Angora and other regions which are mountainous.

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[*] Prepared from statistics supplied by Mr. C. S. Godbenkian, who has large wool interests in the interior of Asiatic Turkey, and to whom I am indebted for the information given.

BREEDS OF SHEEP.

With regard to the different families of sheep in Asia Minor, it must be pointed out that there are actually very few differences among the races of various districts, and these differences can be divided principally into two distinct classes. First, the flocks of Anatolia (excluding Mesopotamia) belong, generally, to the family known in Asia Minor as "Caraman." It is indeed difficult to explain why this name has been given to the principal family of sheep in this country. Perhaps it is because the district of Caramania and the fields of Tchoukourova (low land), which are extending to the south, are the places where a great many shepherds meet coming with their flocks from all parts of Anatolia every spring in order to shear the wool. Second, the other principal family is that of Mesopotamia, but the sheep belonging to the same differ essentially according to the different regions, and no general name is given to it. "Karadi" or "Karakash," "Awassi," "Mendelli," "Kerkouk," and "Djaff" are the names given to the different qualities of wool produced in Mesopotamia. The fact is that the flocks in Mesopotamia have been crossed with Persian sheep, of which they maintain the principal element in their blood.

EXPORTS.

It is reported that 35,000 bales are exported yearly from the whole district of Mesopotamia, and the greatest proportion of this quantity goes to the United States.

VILAYET OF ANGORA.*

Sheep and wool.—Comparing the respective figures of the wool clip and the number of sheep in the several districts of the vilayet, or province, for the last 2 years, we notice a marked increase in the numbers of last year. This increase should not be attributed to a gradual increase of the yearly wool production, as, indeed, one might expect, but to the fact that many flocks perished from cold and severe weather during the winter of 1889, there not being sufficient shelter for them, owing to defective precautionary measures and mortality having increased to 20 per cent. more than the average.

Breeds.—All the flocks of the Angora vilayet, about 500 in number, belong to the well-known Caraman breed, which in many respects resembles the crossbreed.

Exports.—Out of the total production of 1,835,547 okes† during 1890, only one-third of the clip of the Angora district and half of the total clip of the districts of Kerchehir and Yoozgat have been forwarded to foreign countries, whilst the remainder, together with the whole production of the district of Cesarea, has been appropriated for local consumption. On the whole, the exports from this vilayet are decreasing, local consumption increasing every year, especially for the manufacture of carpets.

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*Comprising the districts of Angora, Kerchehir, and Yoozgat.

† 1 oke=2.8 pounds.

Domestic use.—The quantity of the clip retained for local and domestic manufacture is used in making curtains, canvases, carpets, rugs, covers, stockings, bags, and coarse overcoats.

Washing and shearing.—In this vilayet the wool is never washed on the backs of the sheep, but only after being sheared for the local use, so that it stands about 50 per cent. of the original weight.

As regards exportation, we must state that washing is practiced, comparatively, only on a very small scale, because it does not pay the exporters.

Exports to the United States.—Nearly all the washed wool for export from this country is forwarded to the United States, the proportion in this case being about 60 per cent. of the original weight.

Historical references.—Some 40 or 50 years ago exportation was effected to the same extent as at the present time, with the only difference that the wool was washed and Smyrna was the only market for it, while to-day Angora wool is known everywhere. With regard to local consumption, the wool has been used for many years for the purposes above mentioned.

Clip.—Each male sheep of this vilayet is estimated to give annually 1¾ okes of wool, whilst the females give only 1¼ okes. It is estimated that both males and females exist in equal numbers in the flocks. About 100,000 sheep are sent from this vilayet to Constantinople, Smyrna, and Brusa for consumption, and an equal number are killed for local demand, annually.

Shearing.—The male sheep are sheared in the province from the 15th to the 30th of April and the females only towards the end of May. During the year 1890, besides the 1,835,547 okes, there were also 100,000 okes of wool sheared from the skins, as well as the autumn clip of 350,000 okes.

Table showing the number of sheep and production of wool in the various districts of the vilayet of Angora in 1889 and 1890.

Name of district.	Number of sheep.		Production of wool.	
	1889.	1890.	1889.	1890.
			Okes.	*Okes.*
Angora	472,742	625,340	709,113	938,010
Kerchehir	185,093	184,781	277,639	277,171
Yoozgat	224,377	273,157	336,565	409,735
Cesarea	132,169	140,421	198,253	210,631
Total	1,014,381	1,223,699	1,521,570	1,835,547

VILAYETS OF BASSORAH, BAGDAD, AND MOSUL.*

Sheep and wool.—The statistics of the above three vilayets, or provinces, give a total of 3,600,628 sheep for 1888 and 4,204,851 sheep for 1889, respectively. It must be observed that these figures, although drawn from official reports, can not be relied upon, because the official reports are based upon the taxes collected for every head of sheep, and, as there are many nomad tribes who escape paying the tax by crossing the frontier into Persia when the collectors of the tax arrive and returning as soon as the officials have left, it is believed that the correct amount for the year 1889 is 6,000,000 sheep for the three vilayets mentioned.

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*Comprising the districts of Bassorah, Amara, Kerbela, Bagdad, Suleymanie, Kerkok, and Mosul.

From the aforementioned vilayets 34,800 bales of wool were exported in 1888 and 36,800 bales in 1889, the net weight of each bale ranging from 115 to 120 okes.

Breeds.—The principal family of sheep living in the provinces of Bassorah and Bagdad is that of "Chipal." The main feature of this particular breed is that the wool is rather finer than the other kinds exported from Mesopotamia, the only drawback being the great proportion of colors existing in their wool. Only about 20 per cent. of the flocks contain white sheep, the remainder being black, gray, fawn, and brown. The Chipal breed is very common in these two provinces. Roughly speaking, 80 per cent. of the sheep of this region belong to this breed, the remainder to the Karakash breed, the wool of which is used for the manufacture of carpets, whilst the Chipal wool, known in the United States as "Genuine Bagdad," is used in the manufacture of clothing.

In the province of Mosul the predominant breed of sheep is that of the vilayet of Diarbekir, viz, the Arab breed, the wool of which is known in the United States as "Awasi;" the other breed is the Karakash, already mentioned. The Arab, or Awasi, sheep are met with in the desert of Mesopotamia, whilst the Karakash sheep generally live near the high, mountainous region of the frontier, because, their wool being much heavier than the Awasi sheep, they can not bear the excessive heat of the desert, which they frequent during the winter season.

Variety of wool.—It is interesting to note that the climate influences to a great extent the distribution of the different herds of sheep in this region; for instance, the more we get to the south the wool becomes finer and finer, changing from the Karakash to the Awasi, and from this last to the finest of all, the Chapal or Bagdad wool, which grows in the warmest districts of Asia Minor. In the same way the nearer we approach to the eastern and mountainous regions the wool grows coarser and coarser, so that the sheep found in the mountainous regions of Persia bear a wool which is heavier than the usual Karakash and is distinguished from this wool by the name of "Persian Karakash."

Exports.—Before the opening of the Suez Canal the wool of these districts was sent to Aleppo and thence to Marseilles, which was the principal market for them. Lately, however, there has been a large trade with the United States, whereto large quantities are now being shipped direct from the Persian Gulf.

Exports from these districts are increasing every year, as local consumption is diminishing on account of the importation of European stuffs, which are growing more and more into favor and replace local manufactures.

Twenty-three thousand and seventy-five bales of wool were shipped to London direct from the Persian Gulf in 1889 and 22,400 bales in 1890, and were mostly consumed for the home trade in England, only a small part being shipped to the United States.

Domestic use.—Some 30 or 40 years ago a very great percentage of the wool production of these districts was appropriated for the manufacture of the stuff which the Arabs use in making their "jelleybas" and "hyacks," and which is called "mechlahs." Now the manufacture of these stuffs employs the largest proportion of the wool that remains in the country. Besides the mechlah stuffs, many other woolen articles are manufactured in this province as in others.

Washing.—In the vilayets of Bagdad and Bassorah the sheep, before being sheared, are washed to a certain extent in the rivers, whilst in the vilayet of Mosul the wool is only washed after it is sheared, so that it shows about 75 to 80 per cent. of the original weight.

Wool classification.—The wool of the vilayet of Mosul is generally of the Karakash breed, whilst the Bagdad and Bassorah wool is of the Chipal breed. The proportion of these different qualities in the total exports of 36,800 bales for 1889 is as follows:

Chipal breed, 50 per cent., of which 80 per cent. was colored and 20 per cent. white; Awasi, 30 per cent., of which 80 per cent. was white and 20 per cent. colored; Karakash, 20 per cent., of which 80 per cent. was white and 20 per cent. colored.

Table showing the number of sheep in each vilayet for 1888 and 1889.

Districts.	1888.	1889.
Vilayet of Bagdad.	*Number.*	*Number.*
Bagdad	1,096,033	1,248,141
Hillé	221,816	276,233
Kerbela	102,156	104,957
Imperial farms, excluded from the official lists	299,951	376,100
Mosque of Kadrie, excluded from the official lists	29,131	32,000
Total	1,749,087	2,037,431
Vilayet of Bassorah.		
Bassorah	30,131	33,000
Muntefik	500,934	590,000
Amara	213,816	243,000
Imperial farms, excluded from official lists	81,000	90,000
Total	825,881	956,000
Vilayet of Mosul.		
Mosul	462,660	551,200
Kerkook	329,516	401,150
Suleymanie	170,484	179,070
Imperial farms, excluded from official lists	63,000	120,000
Total	1,025,660	1,211,420

VILAYET OF DIARBEKIR.*

Shearing and washing.—The Arab sheep, before being sheared, are always conducted through rivers, which clean them to a certain extent, and the weight of the wool diminishes about 8 to 9 per cent.

Karakash wool is never washed when on the back of the sheep, but only after shearing, losing in washing from 25 to 35 per cent.

Arab wool very often is washed a second time after being sheared.

Domestic use.—About 150,000 okes are used for the same purposes as in the other vilayets.

Mohair goats and sheep.—According to the official reports, there were in this vilayet in 1889 1,084,000 sheep, 191,000 mohair goats, and 799,000 black-haired goats.

For the year 1890 there were 1,053,000 sheep, 186,000 mohair goats, and 751,000 black-haired goats. About 2,000,000 black goats and sheep are killed in the vilayet every year and sent away for consumption.

Clip.—The total clip of this vilayet is estimated to be about 1,200,000 okes, composed of three distinct qualities, viz: 40 per cent. is the well-known Karadi, or Karakash, quality (the breed of sheep which produce this particular quality is known in Asia Minor under the name of "Kurdestan," and the wool is called "Kurd" wool); 30 per cent. is composed of a particularly fine wool called Arab, or Awasi, wool, the finest production of the province; the remaining 30 per cent. is the poorest of the whole production, which comes from all parts of the province.

Breeds.—The Arab sheep are found to the south of Mardin, where they remain winter and summer, whilst the Karakash sheep emigrate in summer to higher regions towards the north of Mardin, near Diarbekir, because they can not support the excessive heat of the desert, their wool being much heavier than that of the Arab sheep.

To the south of Diarbekir, in the desert region which lies between Aleppo and Mosul, there are about 6,000 tents of nomad tribes which are constantly moving about and whose sheep are not included in any of the official lists. Some of these tribes do not pay any tax at all, and others pay only insignificant sums as compared with the number of sheep they possess, which is estimated at more than 300,000 head, with a wool production of about 350,000 okes. This wool is sold by the tribes as they go on their journey through the different provinces.

VILAYET OF KASTAMOONEE.†

Breeds and wool.—The flocks of sheep in this vilayet also belong to the Caramania breed, there being little difference between the respective clips of the various districts. The wool exported from the district of Kankaree and Boli is the finest of all, being full growth and fine in quality.

Clip.—The total clip may be estimated in round numbers at 600,000 okes for the whole province, of which 100,000 okes only are exported, whilst the remainder is appropriated for local consumption for the same purpose as in the province of Angora.

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*Comprising the districts of Diarbekir, Mardin, and Djizire.

†Comprising the districts of Kastamoonee, Kankaree, Boli, and Sinope.

Shearing and washing.—The above exports include 10,000 okes of wool exported on sheepskins forwarded without being sheared to foreign countries. The wool is exported from this vilayet in its greasy state, and it is only washed for local use so as to lose about half the original weight of the sheared wool.

Mohair goats.—There are in this province about 554,840 mohair goats.

The following statement shows the number of sheep in each district of the vilayet of Kastamoonee in 1890:

Kastamoonee	169,704
Kankaree	122,406
Boli	149,601
Sinope	65,265
Total	506,976

VILAYET OF KONIEH, OR ICONIUM.*

Table showing the number of sheep and exports of wool in each district of the vilayet of Konieh in 1890.

Districts.	Exports of wool.	Number of sheep.
	Okes.	
Konieh	318,945	495,800
Teké	150,570	171,800
Hamid, or Sparta	70,950	98,400
Bordour	66,375	59,000
Nigdeh	178,600	195,000
Total	785,440	1,020 000

Wool.—The total clip in this province is more than 1,500,000 okes, 785,440 okes of which are exported.

Sheep.—Roughly speaking, the sheep are pretty evenly divided, half being males and half females. A male sheep yields yearly about 2 okes of wool, whilst the female yields not more than 1.5 okes per head. The average yield is about 15 okes per sheep per year.

Domestic use of wool.—Wool is used for the same purposes as in the other provinces.

Wool classification.—There is but very little difference of quality between the wool of the vilayet of Konieh and that of Angora. This last name is given in Europe and America to Konieh wool, and in the United States all wool coming from western Asia Minor passes for Angora wool.

Washing and shearing.—No washing is practiced in this province except for local use and on a very small scale for export. There is a custom in this province of shearing the wool a second time, in August, when the sheep, before being sheared, are conducted through small rivers and are washed to a certain extent.

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*Comprising the districts of Konieh, Teke, Hamid (or Sparta), Bordour, and Nigdeh.

Variety of wool.—The wool coming from the east of Konieh is rather dusty, because the sheep live in plains which extend over a vast region of the country.

Z. T. SWEENEY,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Constantinople, March 30, 1891.

THE AUSTRALASIAN WOOL SEASON OF 1890-'91.

REPORT BY CONSUL GRIFFIN, OF SYDNEY.

The wool season in all the Australasian colonies is over by the 1st of March. The local sales, however, continue throughout the months of May and June, and the returns of the exports are not made up by the customs authorities until the 1st of July.

The clip was so late in arriving at the points of shipment that many were of opinion that it would be much smaller than that of the previous season. The arrivals, however, were so heavy during January and February that wool authorities had no hesitation in declaring the product to be the largest ever produced in the colonies. The late arrivals were principally due to the effects of the great labor strike and the bad condition of the roads.

The total shipments of wool from the whole of the Australasian colonies from July 1, 1890, to February 11, 1891, showed a decline of 73,799 bales over the corresponding period for the previous season.

The total number of bales exported from the 1st of July, 1890, to the 1st of March, 1891, was 1,346,972 bales, against 1,298,684 bales for 1889, thus showing a net increase of 48,288 bales for the season just closed.

The subjoined table gives the number of bales exported by each colony during the last two seasons, with the increase or decrease for each:

Colony.	1890-'91.	1889-'90.	Increase or decrease.	1888-'89.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria	361,160	388,902	—27,742	330,783
New South Wales	455,735	425,263	+30,472	411,610
Queensland	96,489	90,089	+ 6,400	89,762
South Australia	144,314	142,880	+ 1,434	117,983
West Australia	25,564	23,814	+ 1,750	21,170
Tasmania	19,721	17,471	+ 2,250	13,565
New Zealand	243,989	210,265	+33,724	207,023
Total	1,346,972	1,298,684	+48,288	1,191,896

The firm of Goldsbrough, Mort & Co. has furnished me with a table showing the shipments in the colonies of Victoria and New South Wales up to the date of the 5th and 6th of March, and South Australia to the 4th of March, and those of the other colonies up to the 28th of February, which differs very little from the figures given above.

The following is the table of Messrs. Goldsbrough, Mort & Co.:

Colony.	Date.	1890–'91.	1889–'90.	Increase or decrease.
		Bales.	*Bales.*	*Bales.*
Victoria	Mar. 6	379,583	399,589	—20,006
New South Wales	Mar. 5	457,042	438,718	+18,324
South Australia	Mar. 4	145,351	141,476	+ 3,875
Queensland	Feb. 28	98,043	90,205	+ 7,838
West Australia	...do...	25,564	23,812	+ 1,752
Tasmania	...do...	19,699	17,190	+ 2,509
Total for Australia		1,125,282	1,110,990	+14,292
New Zealand (by telegram)	Feb. 28	243,989	210,265	+33,724
Grand total		1,369,271	1,321,255	+48,016

The Messrs. Buxton, Ronald & Co., of London, claimed early in the season to have information to the effect that the product would exceed that of last season by at least 200,000 bales.

The Melbourne Australasian, in a rècent editorial, says that it is "at a loss to know from what sources this information was obtained, inasmuch as the past season has been one in which those who have devoted most attention to the statistical branches of the trade have felt the least confidence in any predictions regarding production."

The forces which make for a decrease and those which make for an increase have been many and conflicting, and the actual positions of the exports from week to week have been at variance with the probabilities regarding the final results. The actual increase will probably not fall short of 90,000 bales

An interesting feature in the exports of wool this season is the quantity purchased by the various banking institutions doing business in Australia.

The purchases made on behalf of the banks have amounted to 164,000 bales, or about 13 per cent. of the total exports.

The following table shows the growth of their purchases since 1878, when the quantity was only 46,996 bales:

Year.	Quantity.	Year.	Quantity.
	Bales.		*Bales.*
1890	164,432	1883	103,142
1889	154,528	1882	80,451
1888	142,457	1881	73,834
1887	120,286	1880	59,758
1886	121,932	1879	72,647
1885	91,611	1878	46,996
1884	111,318		

The following table gives the names of the banks and the quantity purchased on account of each during the years 1890, 1889, and 1878:

Banks.	1890.	1889.	1878.
	Bales.	*Bales.*	*Bales.*
Bank of New South Wales	36,631	33,988	7,305
Union Bank of Australia	28,831	25,403	
Bank of Australia	27,124	27,729	5,724
Commercial Banking Company	18,520	18,951	14,178
London Joint Stock Bank *	10,649	10,125	
Australian Joint Stock Bank	7,668	7,364	16,645
Mercantile Bank of Sydney	6,797	8,080	3,144
City of Melbourne Bank	5,198	5,200	
Bank of Victoria	4,971	7,214	
Colonial Bank of New Zealand	4,699	3,705	
Queensland National Bank	3,357	2,843	
Bank of New Zealand	2,772		
Bank of South Australia	2,013	2,928	
New Oriental Bank	1,310		
National Bank of New Zealand	1,301		
Federal Bank of Australia	945		
English, Scottish, and Australian Chartered Bank	893	998	
Bank of Adelaide	753		
Total	164,432	154,528	46,996

* London agents for City Bank, Sydney, and Colonial Bank of Australasia.

The bulk of the London trade is done through five leading firms, viz, The New Zealand Loan and Mercantile Agency Company, Dalgety & Co.; Australian Mortgage, Land, and Finance Company; Sanderson, Murray & Co.; and the Union Mortgage and Agency Company.

The following table gives the names of the principal firms engaged in the export of Australasian wool and the amount shipped by each firm for the years 1890, 1889, and 1888:

Importers.	1890.	1889.	1888.
	Bales.	*Bales.*	*Bales.*
New Zealand Loan and Mercantile Agency Company	96,016	93,118	94,805
Dalgety & Co.	94,905	96,230	100,147
Australian Mortgage, Land, and Finance Company	93,049	77,912	84,161
Sanderson, Murray & Co.	75,486	69,282	73,818
Union Mortgage and Agency Company	52,393	46,005	49,905
Bank of New South Wales	36,631	33,988	29,827
Redfern, Alexander & Co.	33,318	30,461	27,865
R. Brooks & Co.	33,266	28,599	29,593
Union Bank of Australia	28,831	25,403	17,202
Bank of Australasia	27,124	27,729	30,100
A. L. Elder & Co.	22,041	25,470	27,107
Elder, Smith & Co.	20,713	28,896	27,640
E. Holt & Co.	20,221	27,243	21,327

The head of the list is occupied for 1890 by the New Zealand Loan and Mercantile Agency Company (limited). During the last 16 years this firm has headed the list four times, viz, in 1878, 1879, 1880, and 1890. During the same period Dalgety & Co. (limited) have headed the list of importers eleven times, namely, in 1874, 1875, 1876, and from 1882 to 1889. In 1877 and 1881 the position was occupied by the Australian Mortgage, Land, and Finance Company. These three companies, together with Messrs. Sanderson, Murray & Co. and the Union Mortgage and Agency Company (limited), have for many years past obtained a very large and governing share of the London wool-importing business. In 1878 these five firms, or their predecessors, imported 222,500 bales out of a total of 791,000 bales, their proportion then being 28 per cent. of the total. In 1888 they imported 403,000 bales, or 32 per cent., out of a total of 1,245,000 bales. In 1889 the percentage fell to 31 per cent., the same as in 1887. Last year, however, these five firms imported 412,000 bales, or 33 per cent., out of a total of 1,226,000 bales.

LOCAL SALES.

There has been a slight decrease in the quantity of wool purchased at the colonial sales. This decline, however, considering the depressed state of the market, is not sufficient to cause sheep farmers to lose confidence in the local sales.

In 1883 these sales amounted to only 175,000 bales, or 14 per cent. of the total quantity purchased, but they have vastly increased since that period. The Victoria sales realized this season 247,517 bales, against 266,702 bales for 1889–'90.

The following are the quantities sold by each of the local firms in Victoria during the past two seasons:

Selling brokers.	1890–'91.	1889–'90.
	Bales.	*Bales.*
Goldsbrough, Mort & Co	66,504	69,123
New Zealand Loan and Mercantile Agency Company	58,981	68,716
Australasian Mortgage and Agency Company	30,434	33,616
Dalgety & Co	25,899	30,745
Union Mortgage and Agency Company	11,892	12,088
Younghusband & Co	5,563	4,602
Total Melbourne brokers	199,273	218,910
Dennys, Lascelles, Austin & Co	32,914	33,041
George Hague & Co	11,472	10,973
Strachan, Bostock & Co	3,049	1,631
Other Geelong brokers*	800	2,147
Total Geelong brokers	48,234	47,792
Grand total	247,507	266,702

* Estimated.

The local sales in Sydney amounted to 247,000 bales. It has been noticed, however, that the prices realized, both in Melbourne and Sydney, for 1890–'91 were far below those of 1889–'90. Indeed, according to the Melbourne Argus, one of the highest authorities on Australasian wool, the average price per bale for the season just closed was only £11 8*s.* 2*d.*, against

£14 19*s.* 4*d.* for 1889–'90, thus showing a decline of £3 11*s.* 2*d.* per bale from that of the previous season.

The following table is furnished by the Melbourne Argus, showing the number of bales sold, total value, and the average price per bale from October 1, 1890, to February 28, 1891, together with a comparison with those of the 12 months previous:

Period.	Number of bales sold.	Value.			Average price per bale.		
		£	*s.*	*d.*	£	*s.*	*d.*
October 1 to December 31, 1890	173,697	1,997,449	14	2	11	10	0
January 1 to February 28, 1891	69,223	774,576	0	1	11	3	9
Total	242,920	2,772,025	14	3	11	8	2
October 1, 1889, to October 1, 1890	265,019	3,966,725	9	9	14	19	4

DISTRIBUTION OF WOOL PURCHASED AT THE LOCAL SALES.

The subjoined table shows the countries to which the wools purchased at the local sales in Melbourne and Geelong, Victoria; Sydney, New South Wales; and Adelaide, South Australia, were sent from March 1, 1890, to February 28, 1891:

Destination.	From—			Total.
	Victoria.	Sydney.	Adelaide.	
	Bales.	*Bales.*	*Bales.*	*Bales.*
United States and Canada	29,000	2,000	2,011	33,000
France and Belgium	80,000	96,000	15,026	272,000
Germany	34,000	47,000		
England and Scotland	74,500	32,000	11,484	118,000
Japan	1,000	350	…………	1,300
Local speculation for resale in London, and local wool scouring and manufacturing	29,000	52,650	15,278	97,000
Total	247,500	230,000	43,799	521,300

In addition to these, some 56,500 bales have been sold in New Zealand, making a grand total in the four colonies for the 12 months of 578,000 bales, against 612,000 bales sold during the corresponding period 12 months earlier; 34,000 bales, or 5½ per cent., is thus the shortage in the sales.

The local sales at Brisbane and elsewhere will greatly increase the amount, so that when the final returns are made up they will fall much below those of the previous seasons.

The local sales held in Sydney from March 9 to March 12 amounted to 9,144 bales. It is said, however, that, while the prices showed no falling off from those earlier in the season, the class of wool was somewhat mixed and irregular, and comparatively few lots in the grease were in good condition. The proportion of scoured was larger than usual and consisted of locks, pieces, and inferior fleeces.

LONDON SALES.

The prices at the London sales do not appear to have realized as large returns for the owners as those in Sydney and Melbourne. The prices were very low in London in December. In January they had advanced considerably, and especially for crossbreeds. Several failures of woolen factories were reported, and by the 1st of February the market weakened again.

A decided decline was noticed in the local washed wools from Victoria, and it is stated these wools brought *1s. 6d.* (32 cents) per pound less than they did 5 years ago. This decline was so much greater than on ordinary wools that the people here were unable to account for it.

The explanation given by the Argus is that until recently these superior washed wools had a special value for special purposes. They were used, and, of course, still are, for making the very finest quality and lightest weights of ladies' dress goods, being frequently mixed with silk.

For these purposes those splendidly washed fleece wools from the western district of Victoria are even more suitable than the same wools would be in the grease, as they spin much finer, and they are also of a much brighter color.

The demand for these goods, however, appears to have almost ceased. Very low prices were obtained for Queensland wools as compared with the rates ruling at the November series. This is explained by the fact that these wools are this year unusually harsh and discolored and quite unsuitable for making the better class of tops and yarns, owing to the last clip having experienced during the growth an exceptionally heavy wet season, which appears to have stained and matted the wool.

To some extent this fault is also found in wools from the north of New South Wales, where very heavy rains were experienced about a year ago.

NUMBER OF SHEEP.

The steady increase in the number of sheep in Australasia has led to much speculation as to the development of the wool industry in the near future. The number of sheep in the whole of the group is about 110,000,000. Of these, New South Wales has 53,000,000; New Zealand, which is the second wool-producing colony, 16,500,000; and Queensland, 15,000,000. The returns for the other colonies have not yet been published, but it is possible that Victoria, South Australia, and Tasmania have not increased the number of their sheep. In 1889 South Australia had 6,386,617, and Messrs. Elder, Smith & Co. give the number at the present time at 6,432,201 and the value at £1,929,660, or 6*s.* per head. The lambing is given at 80 per cent. on the breeding ewes, or 1,500,000.

The total weight of the clip is estimated at 38,593,206 pounds, and the value at £965,000, or say 12 cents per pound, which, at 6 pounds per head, would give the value of the clip at 72 cents per head.

The Melbourne Argus, in commenting on these figures, says:

> Considering that shearing expenses, carriage, railage, and sale expenses have to be paid out of this, the amount netted per head for the clip seems very inadequate to pay interest on the large outlay required to make a sheep station anywhere in Australia.

The area of South Australia is so vast and much of the country so favorably situated that with the help of irrigation she would have little difficulty in carrying several hundred millions of sheep.

Tasmania has not increased the number of her sheep since 1861. The area of that colony is only 26,227 square miles, and, moreover, for many years she has paid far more attention to rearing high-class sheep for breeding purposes than to growing wool for export. Mr. Johnston, the government statistician of Tasmania, in a recent report, says:

> Rabbit's fluke and the increasing tendency to fatten stock for market are the reasons generally assigned for the decrease of sheep. No doubt, however, that the greater extent of land taken up for cattle and pigs must be considered.

The area of New Zealand is 104,000 square miles; New South Wales, 310,700; Victoria, 87,884; Queensland, 668,497; South Australia, 903,690; and Western Australia, 1,060,000 square miles. Victoria, although heavier stocked per acre than any of the other colonies, could easily increase the number of her sheep. At present she has 2 acres per sheep, but this is by no means a limit to her carrying capacity. Mr. Coghlan says, if New South Wales, with 2.81 acres per sheep, were taken as the carrying capacity for the whole of the group, there would be room in Australasia for at least 600,000,000 sheep; and even under the present system he sees no just reason why the colonies could not carry 390,000,000, or 280,000,000 more than they now have. Their carrying capacity could be still further improved if they would pay more attention than at present to water conservation and irrigation for the purpose of cultivating artificial grasses.

CONDITION OF THE CLIP.

The clip, although an unusually large one, is very generally regarded as inferior to that of the previous year, especially as to its yielding powers and freedom from burrs. These defects were due to the continued wet weather during the spring and winter. The copious rains at those periods had a tendency to harden the wool and cause it to be pinched at the top. It not infrequently occurs after a wet season that the supply of fine, soft wools becomes short, and this appears to have been the case with much of the wool at the Sydney sales; and this, in a measure, accounts for the small quantity of wools bought here for the American market, and which amounted to only 2,000 bales, one-half of which consisted of lambs' wool. Orders were received for a much greater quantity of lambs' wool, but each order was accompanied by instructions to send only such as was absolutely free from impurities. The few purchases made were at rates varying from 16 to 22 cents per pound.

The New South Wales wools were more abundant in yolk than usual, and a detractive feature was noticed in the early supplies of what is called by the trade "dead yolk." This dead yolk leaves a stain something like iron rust, and no amount of washing will wholly eradicate it. The shearing strike delayed the opening of the selling season, and it was not until November that the first sale took place. From that date until the end of January, with the exception of an adjournment for the Christmas holidays, the sales continued almost daily and averaged from 10,000 to 11,000 bales per day. Mr. J. A. Molineaux, to whom I am indebted for much of the material of this report, informs me that the Sydney sales will, by the 30th of June next, exceed those of any other season. He is of opinion that Sydney, in the near future, will be the chief wool market of Australasia. He attributes the faulty and discolored condition of portions of the clip to the copious rains. The wools from the important districts of Young Cootamundra and Gundagai, from which all the best supplies formerly reached Sydney for the American market, were found to contain too much yolk. Mr. Molineaux examined a large number of bales after they had been dumped for 2 or 3 months and found the wool so unsightly that he refused to buy it for his customers. The best clips for the American market last season came from the northern part of the colony, near the township of Uralla. These included wools from the well-known stations of Terrible Vale, R. Bander, Taraska, and others. They were found to be sound in staple, of good length, free from burrs and seed, and of a bright luster. They readily sold at from 20 to 23 cents per pound. Mr. Molineaux states that the average prices of the New South Wales wools were 20 per cent. lower than they were 12 months ago. The current prices throughout the season were as follows: Super good greasy fleece, from 20 to 22 cents per pound; average, 14 to 16 cents per pound; inferior, 11 cents per pound; superior greasy lambs' wool, 19 to 22 cents per pound; good greasy lambs' wool, 14 to 18 cents per pound; average greasy lambs' wool, 11 to 12 cents per pound; inferior lambs' wool, 10 to 12 cents per pound; scoured fleece, 22 to 32 cents per pound.

The clip in New Zealand was in a much better condition than usual. The sheep there, for the most part, are altogether different from New South Wales and Victoria and the other Australian colonies and consist principally of crossbreeds. The cross is between the original imported merino, of Australia, and the Leicester, Lincoln, and Southdown sheep, from Great Britain, the cross between the merino and Leicester predominating. In Octago district, South Island, and the southern part of North Island the wool is remarkable for its length of staple, density, and firmness and is well adapted for the use of American manufacturers. The woolen mills in New Zealand are always on the lookout for this wool and compete sharply with American buyers for it. The local factories almost invariably give a higher price for it than it would bring in the English or American market. The value of the cross between the merino and the Leicester is determined by its length of staple, the amount of grease it contains, and its strength and clearness. Its average price is 26 cents per pound.

The wools next in value are three-fourths bred. These latter bring nearly as high prices as the crossbreds. The Lincoln wool is the longest and coarsest grown in New Zealand; its fleece is usually very heavy in the grease, often weighing as much as 24 pounds per fleece. The present aim of the New Zealand woolgrower is to raise sheep with a carcass of about 60 pounds weight, suitable for the frozen-meat export trade. This, however, can not be done without injury to the quality of the wool, and, if persisted in, will sooner or later destroy the production of fine wool in that colony. The price paid for frozen mutton is 4 cents per pound, subject to the restriction of 60 pounds to the carcass.

SAMPLES OF WOOL.

There seems to be a general impression here that American wools are not equal in strength, fineness, and luster to those grown in Australasia, and especially in western Victoria and the Riverina district. The samples of American wools, and especially those grown in the State of Ohio, sent to the Melbourne International Exhibition did much to remove the false impression in regard to American wools. These samples were admitted by experts to be far superior to anything of the kind ever grown in these colonies. American farmers, however, have to admit that these wools can be much more economically grown here than in the United States, or else manufacturers could not afford to pay the cost of transportation and the duty of 10 cents per pound upon them.

The Hon. W. G. Markham, president of the Woolgrowers' and Sheepbreeders' Association of New York, who has done so much to improve the flocks of Australasia by the introduction of blooded sheep from Vermont, Michigan, and other States of the Union, has promised to send to the Sydney Technological Museum a full set of samples of American wools. I understand that these samples are on their way here. The museum has a magnificent collection of wools from the principal countries of Europe, as well as from the Australasian colonies and South Africa, but it has no samples of American wools, and the arrival of Mr. Markham's collection is looked forward to with much interest.

Among the samples in the museum especially worthy of mention are those from the celebrated Erceldoune estate of Sir Samuel Wilson, at Burrumbeet. I have been permitted to examine these samples through the kindness of Mr. Alfred Hawkesworthy, "wool-classer" to the museum. The samples are precisely the same as those I sent to the Department for the National Museum, at Washington, last year, and, as they attracted much attention there, I have thought the following account of the formation of the stud flock from which they were obtained would not be without interest to American woolgrowers.

The Messrs. Learmouth were the first white men to visit Burrumbeet in 1837, and they were so much impressed with the nature of the soil and other conditions of the district that they took possession of large tracts of country and stocked it with Tasmanian sheep. Lake Burrumbeet, from which the place derives its name, soon became dry and, from the great quantity of vegetable matter left, was for a number of years a rich pasturage for the sheep, which showed such a marked improvement, both in body and wool, that the owners were induced to secure some pure pedigree sheep which happened to be for sale at that time.

It was in 1848 that the pure flock, the origin of the present stud flock, was obtained by Messrs. Learmouth.

These sheep were the descendants of the first great importation of Spanish merino, which had been secured in 1785 by the Elector of Saxony as a great favor from the King of Spain, and which formed the best flock in that Kingdom.

The late Mr. Forlonge obtained a portion of this celebrated breed, which was termed the "electoral flock," and these were brought to Tasmania.

After a short time they passed into the hands of Mr. (now Sir) William Mitchell, who brought them to his Barfold station, near Kyneton.

To induce Sir William Mitchell to part with them, Mr. Learmouth offered two sheep to one of the pure flock, and thus obtained the pure breed he so much desired. Such is the origin of the pure Ercildoune flock. About the year 1851 a few rams from the celebrated Camden stud were used, and in 1862 some sheep from Mr. Kermode's pure flock from Mona Vale. Tasmania were also used to great advantage. In 1873 Ercildoune was purchased by Sir Samuel Wilson, and under the skillful classing and selecting of Mr. Jonathan Shaw a great improvement has been made in the size of the sheep and in the quantity and quality of the wool, which is confirmed by the high price paid for Ercildoune washed wool in 1886 during the great depression, viz, $1.23 per pound, the highest price ever paid in open market. This wool has carried off the gold medal at nearly all the international exhibitions in Europe for the last 30 years. It is of medium length and of a pure, clear fiber, very finely and regularly serrated, of great elasticity and softness, with beautiful luster. As a manufacturing wool it can be used for many purposes. On account of its beautiful luster and softness, it is bought by silk manufacturers to mix with silk, and very little wool grown can be used for that purpose. As a combing wool to make the best of fancy dress goods it is said to be unsurpassed. It has what is called full weight in "lop," or "silver." For hosiery materials it is highly esteemed, and when made into yarn for that purpose, which is not subject to the hard twisting required in combing or worsted yarns, it shows to great perfection in fullness, softness, and brightness, and can be used for pure white goods or can be dyed the most delicate shades; also, it may be used on the finest branches of cloth manufacture, such as broadcloth and billiard cloth, and its felting powers are believed to be unsurpassed. Its spinning qualities have given the highest counts of any wool ever grown in Australasia. Several ewes have been sold from the flock that averaged $1,115 each.

AMERICAN EXPORTS.

The exports of wool to the United States were nearly three times greater than those of the previous season, and it is believed that when the returns are made up for the 30th of June next they will exceed those of any other year since the establishment of the industry in 1871. These exports fluctuate from season to season, but they have never at any time been very large. Previous to 1871 only about 1,200 bales had been exported. During the season of 1871–'72 they amounted to 18,659 bales, but they declined in 1877–'78 to 5,071 bales and in 1878–'79 they were absolutely nothing. In 1888–'89 they reached 37,175 bales and in 1889–'90 they declined to 12,340 bales. With the exception of the season of 1878–'79, no other season reached anything like the figures of the present one.

I give below a table showing the wool exports from Australasia to the United States for each season from 1871–'72 to 1890–'91:

Year.	Quantity.	Year.	Quantity.
	Bales.		*Bales.*
1871–'72	18,659	1882–'83	5,794
1872–'73	11,851	1883–'84	14,863
1873–'74	9,745	1884–'85	6,221
1874–'75	19,042	1885–'86	20,161
1875–'76	5,032	1886–'87	15,360
1876–'77	7,567	1887–'88	22,379
1877–'78	5,071	1888–'89	37,175
1879–'80	17,551	1889–'90	12,340
1880–'81	3,372	1890–'91	31,000
1881–'82	11,070		

The small exports of 1889–'90 are attributed to the market being overstocked from the previous season and to the indifferent selections made by local buyers. During the present year about 16,000 bales of Australasian wool were purchased in London for the American market, thus making a total of 47,000 bales; and it is estimated that by the 30th of June next the United States will have received fully 100,000 bales of Australasian wool. This estimate is based on the increased demand occasioned by our new tariff, which, while not changing the tax on wool, has increased the tax on woolen manufactures.

The following table shows the consumption of colonial wool for each year in the United States since 1881:

Year.	Quantity.	Year.	Quantity.
	Bales.		*Bales.*
1890	48,000	1885	37,000
1889	67,000	1884	42,000
1888	47,000	1883	33,000
1887	58,000	1882	33,000
1886	57,000	1881	18,000

Considering the superior facilities for shipping wool at Sydney, it is remarkable that the bulk of the supplies for the United States should be obtained at Melbourne; but much of the New South Wales wool, and especially that in the Riverina district, finds its outlet at Melbourne, and, besides, the wools from western Victoria are equally as well adapted for the American market as those from the most favored districts of New South Wales. During the season just closed, as previously stated, only 2,000 bales of wool were sent to the United States from Sydney, against 29,000 bales from Melbourne. Of these shipments 1,292 bales were sent to San Francisco by the steamers *Alameda* and *Mariposa* and 10,508 bales to Boston by sailing vessels.

The following table shows the names of the vessels carrying this wool, the amount taken by each, and the ports of destination:

Destination.	Ship.	Date.	Quantity.
		1890.	*Bales.*
London	Valetta	Oct. 25	423
San Francisco	Alameda	Oct. 29	753
London	Orizaba	Nov. 1	134
Do	Ballarat	Nov. 8	670
Do	Orient	Nov. 15	327
Do	Parramatta	Nov. 22	473
Do	Pathan	Nov. 26	164
San Francisco	Mariposa		454
London	Ormuz	Nov. 30	575
Do	Australasian	Dec. 2	67
Do	Oceana	Dec. 6	181
Boston	Benj. F. Hunt	Dec. 12	5,272
London	Oratava	Dec. 13	553
Boston	Coldinghame	Dec. 16	5,336
Do	Miako	Dec. 17	2,399
London	Afghan	Dec. 20	1,821
Do	Rome		627
Do	Collingwood	Dec. 22	490
San Francisco	Monowai	Dec. 24	77
		1891.	
London	Britannia	Jan. 3	57
Do	Durham	Jan. 10	942
Boston	Jerusalem	Jan. 15	4,031
London	Massilia	Jan. 17	51
Do	Falls of Garry	Jan. 16	1,016
Do	Pt. Caroline	Jan. 22	83
Boston	Hulda		610
San Francisco	Alameda	Jan. 20	8
Total			27,588
Quantity purchased since (about)			1,500
Total Melbourne purchases			29,088
Sydney purchases			2,000
Grand total			31,088

Several hundred bales of the shipments to Boston were purchased on account of manufacturers in the Canadian Dominion.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, March 23, 1891.

BERLIN STREET-CLEANING.

REPORT BY CONSUL-GENERAL EDWARDS.

In many municipal departments the variations of weather in different years, by affecting the amount of work done, influence the fluctuations of expense. In no department is this influence more marked than in that under consideration. Snowy winters necessitate an immense increase of the labor force (men and horses); hence the expenses are in such years much greater than in meteorologically less unfavorable years.

For the removal of snow alone in the fiscal year 1887'–88 619,776 marks* were expended. In the fiscal year 1888–'89 this item of expense was 486,092 marks.

Leaving these two severe winters out of account, the other 5 years of the period under report show only the small natural increase in expenses due to the extension of the street network. The number of workmen regularly employed was, in the fiscal year 1882–'83, 572; and in the fiscal year 1888–'89, 588. As the street area to be cleaned every day was in the former and latter years, respectively, 2,643,310 and 2,824,632 square metres, the average daily amount cleaned by each workman increased from 4,621 to 4,804 square metres.

The number of lads who receive 1½ marks per day for cleaning asphalt streets increased from 26 to 76. In no year was it possible to avoid the employment of supplementary workmen, in larger or smaller numbers according to the weather.

The daily earnings of these additional workmen were 2 marks (57.6 cents). Of the regular employés, the principal workmen receive 3½ marks, and the other workmen 2½ to 3 marks, per diem.

The following table shows the fluctuations in the work done by, and the wages paid to, supplementary workmen during the period under report:

Years.	Number of days worked.	Wages.
		Marks.
1882–'83	16,916	32,832
1883–'84	4,312½	8,625
1884–'85	19,217½	38,435
1885–'86	48,895	97,790
1886–'87	33,272	66,544
1887–'88*	82,448½	164,897
1888–'89*	53,111½	106,223

* There was an unusual fall of snow in both of these years.

The regular overseers, 6 in number, received from 2,160 to 2,700 marks ($514 to $632) per annum. The regular underoverseers, 21 in number, received from 1,500 to 1,830 marks ($357 to $435) per annum. Uniforms and tools were supplied free to 10 men. Regular employés unfit for duty received pensions of from 400 to 600 marks ($95 to $142) per annum. While the number of employés was not materially increased, there was a considerable increase of machine power. In the year 1889 42 sweeping machines were in use.

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* 1 mark = 23.8 cents.

For the sum of 6 marks ($1.63) per diem contractors supplied horse and driver and kept the machine in order. The estimated daily expense of keeping these sweeping machines in order was 50 pfennigs. The cleaning capacity of such machines depends upon the nature of the pavement, and ranges from 5,500 square metres per hour on bad pavement to 8,500 square metres per hour on asphalt pavement.

The street sweepings have always been removed by private contractors, who are bound to remove every day all street filth to dumping places. There are special requirements in regard to wagons, teams, uniforms of drivers, etc. The contractors must supply the dumping places, and, in return for this responsibility, they receive for their free use the street sweepings. The total amount of street sweepings removed was as follows:

Years.	Number of wagon-loads.	Years.	Number of wagon-loads.
1882–'83	95,493	1886–'87	95,095
1883–'84	94,662	1887–'88	96,206
1884–'85	95,989	1888–'89	97,969
1885–'86	94,380		

The number of loads, therefore, varied very little in spite of the considerable increase of area to be cleaned. In fact, in the year 1888–'89 the number was about 16,000 less than in 1878, when it amounted to 113,994 wagonloads. This was due to the constant increase of good, impervious pavements.

The contractors are bound under all circumstances to supply enough wagons to remove each day all street waste. The number of wagons required varies with the weather; in dry weather often hardly half so many wagons are needed as in wet weather. The annual amount paid to the contractors was, up to April 1, 1883, 420,900 marks. Then, in accordance with a 5-year contract, which expired April 1, 1888, the sum was reduced to 361,200 marks. Since then the annual amount paid out for this purpose was 378,160 marks.

For the removal of snow separate payment was made by the wagonload. In this there was also a variation of prices, 1.75 to 2.50 marks being paid per wagonload. For avoiding mistakes a special check system was used in connection with the removal of snow. Furthermore, it was so planned that the principal streets were first cleaned of snow, the process of removal beginning in the center of the city and extending outward.

The number of wagons used during the year 1888–'89 for sprinkling purposes was 150. The old 1,000-litre wagons were replaced by 1,500-litre sprinklers.

The amount paid to contractors for sprinkling with these wagons was, in the year 1881, for the 120 wagons then in use, 170,000 marks. By contract from 1882–'83 to 1885–'86 this amount was reduced to 148,500 marks per annum. Since 1887–'88 the amount paid for this purpose was 220,200 marks per annum.

From the municipal waterworks there was supplied for street-sprinkling as follows:

Year.	Quantity.	Year.	Quantity.
	Cub. met.		*Cub. met.*
1882–'83	506,786	1886–'87	848,478
1883–'84	663,482	1887–'88	773,414
1884–'85	617,225	1888–'89	719,494
1885–'86	672,550		

By contract the street-car companies were required to clean and sprinkle their tracks and the street surface on each side for a distance of 0.65 or 0.70 metre. By special contract the city assumed this responsibility, the street-car companies paying three-fifths of the cost actually incurred in this way. The receipts from this source were:

Years.	Amount.	Years.	Amount.
	Marks.		*Marks.*
1882–'83	66,140	1886–'87	84,041
1883–'84	71,850	1887–'88	100,205
1884–'85	78,549	1888–'89	101,410
1885–'86	81,184		

By the introduction of the municipal street-cleaning system Berlin propertyholders were relieved of their legal obligation to clean the streets. By the general sewerage system they were relieved of their obligation to remove house and kitchen slops, as well as human excrement. But they are still responsible for the removal of matter which can not be admitted to the street sewers and pipes, such as kitchen waste, house sweepings, sand, ashes, broken crockery, and other solid stuffs.

As the growth of the city within its limits increased, the possibility of propertyholders disposing of such substances in a legal way became constantly more difficult. The contractors for the removal of street filth frequently, secretly and at night, unloaded such matter on vacant city lots and in parks. If caught and fined once, this did not deter them from doing the same thing again. Moreover, the authorities of adjoining communities were equally averse to receiving such matter.

Finally the city council, recognizing the necessity, decided to establish on land which had been previously rented three dumping places for such matter, 60 pfennigs and 40 pfennigs, respectively, being charged for the privilege of dumping thereon a two or one horse load. During 4 months of 1887 10,390 loads were thus disposed of. The receipts amounted to 6,895.25 marks.

In the fiscal year 1888–'89 49,736 loads were thus disposed of. The receipts were 29,336.87 marks; expenses, 21,694.93 marks; so that the clear gain was 7,641.94 marks.

This result was exceedingly favorable, as under the expenses were included interest on capital, amount of rent lost, house and rent tax, etc. But it can not be expected that this will be a permanently paying venture. In the short period of 16 months 60,126 loads have been dumped on an area of about 21 acres. From year to year this practice will grow. A final removal of the matter thus accumulated to make room for further unloading will occasion a very considerable pecuniary sacrifice. The only final solution of this question which seems practical is the purchase of a dumping ground far away from the city and large enough to suffice for decades, whither all matter which can not be removed through the sewers can be transported in boats.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, March 21, 1891.

Port of Torres, Brazil.—Consul Negley, of Rio Grande do Sul, in his report on Porto Alegre, published in CONSULAR REPORTS No. 126, (March, 1891), says:

> The only approach at present from the outside world is over the bar at Rio Grande do Sul and up Lake Patos 150 miles. There is a project for shortening this approach from the north by means of a railroad extending 240 kilometres in a northeasterly direction to the seacoast at Torres, the proposed terminus of the line, and for the construction there of an artificial breakwater and harbor. The concession has been granted, but unaccompanied by any guaranty of interest. Without such guaranty—the usual method of making a thing "go" in this country—the raising of $15,000,000 (the estimated cost of the scheme) will be no easy undertaking.

In a subsequent report Consul Negley says that a telegram from Rio de Janeiro was received at Rio Grande do Sul and published in the Artista of February 20, 1891, to the following effect:

> The Official Journal (Rio de Janeiro) publishes to-day (February 20) the decree concerning the guaranty of interest of 6 per cent. during 20 years on $4,000,000, with exchange at 40 cents to the milreis, to Messrs. Dr. Viriato de Medeiros and Alfredo Dillon, that they may carry into effect the construction of the port of Torres.

AUSTRALASIAN WHEAT HARVEST, 1890-'91.

REPORT BY CONSUL GRIFFIN, OF SYDNEY.

The delay in the publication of the agricultural returns of the seven colonies composing the Australasian group renders it very difficult to form an approximation of the actual quantity of wheat produced, even after the harvest has been gathered for a considerable period. Only three of the colonies in the group, viz, South Australia, Victoria, and New Zealand, have thus far been able to produce wheat enough for home consumption, much less for export. The remaining colonies—New South Wales, Queensland, Western Australia, and Tasmania—have always been large importers of wheat and flour, New South Wales usually heading the list. Last year she imported 5,077,925 bushels, after one of the largest harvests in the history of the colony.

A considerable portion of these imports came from the United States, but a much larger portion came from Victoria and South Australia. The latter colonies, besides growing wheat enough for home consumption, have in most seasons been able, not only to supply the deficiency in other parts of Australasia, but to export considerable quantities to Europe.

Mr. T. A. Coghlan, the Government statistician of New South Wales, estimates the wheat product of Australasia at 43,244,000 bushels. The average production for 1889–'90 was 10.98 bushels per acre, and the same average would apply to the seasons of 1890–'91. This is the largest average since 1886–'87. Mr. Coghlan states that a production of 43,244,000 bushels would leave a surplus of 12,321,000 bushels for external export.

During the period from 1881–'82 to 1889–'90 the area under wheat in Australasia increased at an annual average rate of 1.76 per cent. Assuming that the same rate held good for 1890–'91, the area cropped in that season would be 3,938,454 acres, which area, at the average rate of production for the last 10 years (10.25 bushels per acre), would yield 40,369,256 bushels of wheat. Taking the population at 4,000,000 souls and the average consumption per head at 6.5 bushels, a total of 26,000,000 bushels would be required for food, in addition to 4,923,000 bushels for seed, being at the rate of 1.25 bushels per acre for 3,938,464 acres. The aggregate requirements for Australasia would thus be 30,923,000 bushels of wheat for the year, which, deducted from the total production as above, would leave 9,446,000 bushels available for external exportation. But, as the yield per acre promises to exceed the average of the last 10 years, this estimate will probably be exceeded. The average production of 1889–'90 was 10.98 bushels, and, if the same average should be reached in 1890–'91, the production would be, as previously stated, 43,244,000 bushels.

Mr. Coghlan further says:

> Taking Australasia as a whole, the acreage under wheat has increased by about 503,000 acres since 1881. The larger proportion of the increase is due to Victoria and New South

Wales. South Australia shows some slight increase, while New Zealand, on the contrary, exhibits a decline of nearly 30,000 acres. From this it will be seen that, with the exception of the farmers of Victoria, those of the other wheat-exporting colonies show a disposition to decrease the acreage under wheat and extend the cultivation of other crops.

Nor is this experience exceptional in other countries. Mr. Roper, the compiler of the "Yearbook of Canada," states:

> Were it not for the British demand, it is questionable whether wheat would be any longer a profitable crop in Canada beyond the limit of home consumption, and in any case one thing appears certain—that only under some unexpected and untoward circumstances can wheat ever approach in value the price of former years.

NEW SOUTH WALES.

Mr. Coghlan has just issued a statement in regard to the harvest of New South Wales for 1890–'91, in which he gives the crop at only 4,300,000 bushels, against 6,460,000 bushels for 1889–'90, and the area at 385,000 acres, against 407,400 acres in 1889–'90. The following is the statement referred to, which also gives the average yield per acre, the average yield for the past 29 years, the amount of wheat available for consumption, etc.:

Year.	Estimated area harvested.	Yield.	Average yield per acre.*	Available for consumption.†	Probable consumption.	Probable deficiency.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1890–'91	385,000	4,300,000	11.17	3,725,000	7,700,000	3,975,000
1889–'90	407,400	6,460,000	15.86	5,910,000	7,500,000	1,500,000

* Average yield per acre for the past 29 years, 13.14 bushels.

† After deducting 575,000 bushels for seed, etc.

It will be seen from the preceding table that the average yield per acre for the season just closed is only 11.17 bushels, against 15.86 bushels for the previous season, and 2.17 bushels less than the average yield per acre for the last 29 years, which is given at 13.34 bushels per acre. After allowing 575,000 bushels for seed, it is expected that 3,725,000 bushels will be available for consumption. As the total consumption is estimated at 7,700,000 bushels, there is an estimated deficiency of 3,975,000 bushels. While the estimated quantity of foreign wheat required was 1,500,000 bushels, it appeared that the actual import was 1,800,000 bushels. The stock at the beginning of 1890 was estimated at 590,000 bushels. The stock at the beginning of this year is believed to be about 800,000 bushels, an increase of 210,000 bushels on last year's figures, making the total quantity imported for consumption 1,590,000 bushels. These figures practically verify the official estimates of last year. The quantity of flour imported during 1890 amounted to 55,233 tons and the export to 20,554 tons, making the net import of flour 34,679 tons. The wheat imported was 362,486 bushels and the export 219,228 bushels. The net import was therefore 143,258 bushels.

The harvest of the northern table-lands is but slightly less than that of last year. In the west, however, it is estimated not to have exceeded 10 bushels per acre. In the southwestern district it was about 12 bushels. It is estimated that the quantity of wheat required for the district depending on importations at Newcastle will be about 800,000 bushels. Importations by way of the River Darling and overland from South Australia will be about 220,000 bushels. The quantity required to make good the deficiency of the rest of the colony is fully 3,000,000 bushels, most of which will need to be imported into Sydney. Up to this date New South Wales is the only colony in the group in which an official estimate has been made by the respective statisticians.

VICTORIA.

An estimate, however, has been made by the statistician of the Melbourne Australasian, and the yield of that colony is given at nearly 18,000,000 bushels, the exact figures being 17,985,250 bushels, the highest yield on record. It is worthy of remark that the estimates of the Australasian have for many years differed very little from those of Mr. Hayter, the Government statist of Victoria. I have therefore never hesitated to use them in the absence of those of Mr. Hayter. The figures, however, for the season just closed place Victoria for the first time at the head of the list of wheat-producing colonies. The yield for Victoria in 1889–'90 was 11,495,720 bushels, thus showing an increase for 1890–'91 of 6,489,530 bushels. I am indebted to the Melbourne Australasian of the 21st instant for the subjoined table, showing the quantities and the exportable supply of breadstuffs in Victoria, together with the yield of the harvest, etc.:

Articles.	Quantity.	
	Bags.	Bushels.
Wheat and flour received at Spencer street, Port Melbourne, Williamstown, Moreland, Newmarket, Kensington, and Geelong from December 29, 1890, to March 7, 1891	....	3,587,447
Wheat received during the week ended March 14, 1891	89,845	....
Flour received during the week ended March 14, 1891	8,783	422,243
Total imports	....	4,009,690
Consumption at Melbourne and suburbs and Geelong, 11 weeks, at 56,000 bushels per week	....	616,000
Shipments of wheat and flour to March 7, 1891	....	2,078,678
Wheat exported during the week ended March 14, 1891	19,485	....
Flour exported during the week ended March 14, 1891	14,981	151,724
Exports from Melbourne by rail, say 100 tons of flour per week for 11 weeks	....	50,600
Total exports	....	2,897,002
Difference in favor of imports	....	1,112,688

The general statistical position is now as follows:

		Bushels.
Yield of wheat harvest, as per the Australasian estimate		17,985,250
	Bushels.	
Year's consumption in Victoria, 1,160,000 persons, at 5½ bushels	6,380,000	
Seed for 1,250,000 acres, at 1¼ bushels	1,562,500	
Exports of wheat and flour to March 14, as above	2,230,402	
		10,172,902
Exportable surplus		7,812,348

The estimated total still available for shipment is 209,259 tons. Shipments of breadstuffs on account of the present season show a total of 89,743 tons. The immense stride made by Victoria in wheat production is due in a large measure to her agricultural department, and especially to the agricultural college, to which I have on various occasions drawn attention in my reports to the Department. The principal of the college, Mr. Thompson, has given particular attention to the growth of wheat. In a report dealing with the crops for last season he mentions that the seed known as the White Rose and the Farmer's Friend yielded large returns per acre. In the series of experiments initiated to ascertain the best varieties of wheat for sowing, he found, out of one hundred and twenty-one different kinds, that the best results were obtained from the following: Lost Nation, China No. 2, Pringle's No. 1, Centennial Black, Dominion, Port M'Donnell, Rattling Tom, Steinwedel, Purple Straw, Tuscan, Essex, Farmer's Friend, Fill Bag, Northern Champion, White Fyfe, Rio Grande, Incomparable, Excelsior, Saratow, Canadian Club, Golden Globe, Berthond's Rietic, Galland's Hybrid, Bancroft's Improved, Sherman's Purple Straw Spring, Champlain Hybrid, Du Toit's, Webb's White Challenge and Purple Straw.

Mr. Thompson tried twenty-six different kinds of manure, and among the best were superphosphate, guano, common salt, bone dust, Maldon Island guano, and farmyard manure. He is of opinion that the best time for sowing seed is from the 12th of April to the 24th of May. He says that it is more profitable to keep the seed in the barn and fallow the land, if it can not be got in by the end of May. He recommends the farmer to thoroughly work and pulverize his land, and says that the cutaway disc is the best implement to use for this purpose. He did not find the drilled land to show any extra results; but the results from the Lois Weedon system of growing wheat sown in alternate strips, the strips left unsown being sown and cultivated the following year, are worthy of attention. It is claimed for this system that the air circulates better through the crop and prevents rust. Otherwise it is equal to fallowing the land every second year.

SOUTH AUSTRALIA.

The wheat product of South Australia for the season 1889–'90 was 14,495,720 bushels, but the highest yield reported for 1890–'91 was 13,550,000 bushels. The estimates, however, have not been obtained from official sources, but from the leading agricultural journals in that colony. The small yield is said to be due to the ravages of grasshoppers. The heavy rains also interfered with the crop at the time of gathering it, but the quality of the wheat was fully up to the usual high standard. The prices thus far, both at the local and London sales, were in advance of those for any other colonial wheat. It is considered, however, by the leading agricultural journals in Melbourne that the Victorian wheat is now fully equal to that of South Australia, both with regard to quality and weight per bushel. Indeed, the grain, particularly in districts where it has not been grown successfully, is said by millers to be unsurpassed for the production of the choicest brands of family flour. Heretofore Victorian wheat averaged in weight considerably below that of South Australia, but recently a decision has been made by which the average shipping quality of Victorian wheat is fixed at 64 pounds per bushel, being the same as the South Australian average. This information was cabled to London on the 4th instant by the Melbourne Chamber of Commerce, and it appears to have had a decided effect on the market there, the Victorian product realizing nearly the same prices as that of South Australia. A cargo of Victorian wheat realized on the 5th instant \$8.72 per quarter, being the highest price paid for several years. The heaviest weight tested by the chamber of commerce was 65½ pounds per bushel, although information was to hand of several sacks of prime Victorian seed wheat averaging 69 pounds to the bushel.

The following statement shows the average weight of wheat per bushel in various districts:

	Pounds.
Tatura district	65½
Nathalia district	65
Nullan district	65
Waaia district	65
Dingee district	64¾
Numurkah district	63¾

The rotation system of growing wheat is becoming very popular in the leading grain districts. A series of experiments has recently been conducted at Port Fairy by Mr. A. N. Pearson, agricultural chemist for the Victorian Government, for the purpose of testing the value of rotation crops and the use of manures.

Several plots were marked off in the same paddock, and were, in 1888 and again in 1889, manured and sown with mangolds, whilst in 1890 Steinwedel wheat was sown without further manuring. The following yields were obtained: Plot 4, with complete heavy manure, gave, in 1889, 103 tons of dressed roots per acre; in 1890, 44¾ tons of dressed roots per acre; and in 1891, with the residue of the previous year's manure, 44¾ bushels of Steinwedel wheat per acre; plot 7, with medium manure without potash, yielded, in 1889, 85 tons of dressed roots per acre; in 1890, $44\frac{4}{7}$ tons of dressed roots per acre; and in 1891, with the residue of the previous year's manure, 38⅓ bushels per acre of Steinwedel wheat; plot 8, without manure, gave, in 1889, 21 tons of dressed roots per acre; in 1890, 19½ tons of dressed roots per acre; and in 1891, 28⅔ bushels per acre of Steinwedel wheat. The significance of these results is shown by a comparison of yields obtained from white Tuscan wheat grown in 1891 in the same paddock, but in succession to wheat crops. With complete heavy manure the yield was 40 bushels per acre; with medium manure without potash, 33 bushels; and without manure, 12½ bushels. It will be seen that the advantage of the rotation of crops was especially noticeable in the case of the unmanured plots.

In that part of Victoria bordering on South Australia the land is said to be especially adapted to wheat, and the same method of harvesting is used thus far in the Wimmera district. The stripper is preferred to the reaper and binder, and it is said that it will continue to be preferred until the pioneer stage of settlement has been completed, for the reaper and binder can not be introduced successfully until the stumps and roots of the mallee scrub are worked out. Moreover, the burning of the straw left by the strippers is one of the best means of killing the fresh mallee shoots. This mallee country was supposed, until a few years ago, to be worthless, but since the introduction of irrigation it has been found to be well suited for grain. Much of the wheat averaged 30 bushels to the acre, and in seasons of drought it was seldom below 8 bushels. The cost of stripping the grain is $1.10 per acre. The Wimmera district has already shipped to Melbourne 1,560,000 bushels of wheat. Thirty special trains arrive daily, besides those ordinarily engaged in carrying grain, and the farmers look forward to extending the production of wheat to almost unlimited proportions in the near future.

NEW ZEALAND.

The harvest in New Zealand is described as scant. The area in wheat was less than that of 1889–'90, when it was 26,292 acres less than that of the previous season, the exact figures being 335,861 acres for 1889–'90 and 362,153 acres for 1888–'89. The product for the former season was 8,448,506 bushels and the latter 8,770,246 bushels. The estimate for the season just closed is 7,560,000 bushels. The truth is, the New Zealand farmers find it more profitable to export frozen mutton than to grow wheat, and the enormous increase of the former industry can be best illustrated by the statement that the export of frozen mutton for the year 1890 was more than double that of 1887. In the latter year (1887) they exported 766,417 carcasses; in 1888, 938,766 carcasses; in 1889, 1,068,506 carcasses; and in 1890, 1,531,901 carcasses; while all the other colonies put together exported but 208,314 carcasses. The export of frozen beef also showed considerable expansion. In 1890 the increase over the preceding year amounted to 12,937 pieces. It is a matter of regret that the wheat industry of New Zealand should be allowed to decline, for the grain is of the very best quality and commands a high price in the London market. Moreover, the average yield per acre is nearly double that of any of the other colonies. In 1889–'90 the average yield was 25.15 bushels; in 1888–'89, 24.22 bushels; and in 1887–'88, 24.4 bushels. The lowest in 10 years was in 1881–'82, when it was at the extraordinarily low figure of 22.68 bushels per acre.

The following table shows the average of the principal wheat-growing districts for the year 1890:

	Bushels.
Auckland district	21.44
Canterbury district	28.03
Wellington district	27.62
Hawke's Bay district	37.04

These extraordinary averages are not the result of artificial manuring, but from the ordinary alluvial land that has been enriched by a crop of grass or turnips upon which sheep have been fed the year previously. It is no uncommon thing for land in the Crown Terrace district, in South Island, New Zealand, to produce as much as 100 bushels of wheat per acre. The soil and climate of New Zealand are perhaps better adapted for the growth of grain than those of any other colony in the group; but the high cost of labor and railway transportation, as well as the lack of improved facilities for handling the crops, prevents the industry from being a profitable one.

QUEENSLAND.

The wheat production of Queensland has always been small. The estimate for the season just closed is 133,680 bushels, against 134,335 bushels for 1889–'90.

The small area under wheat in Queensland is a matter of surprise, when so much of the vast territory is suited to the growth of cereals. On the tablelands, particularly in Darling Downs and the Canning Downs, the yield per acre is very large, and the quality is fully equal to that grown in any other part of Australasia; and yet the people look to the other colonies and to the United States for their wheat and flour.

The population of Queensland is estimated at 406,000, but it is believed that the census now being taken will show at least 480,000. Should this estimate prove to be correct, the colony will require to import during the present year fully 2,500,000 bushels of wheat. The bulk of the wheat supply is shipped by way of Sydney. A steady progress, however, has been noticed, both in the acreage under cultivation and in the average yield per acre. In 1861 she had but 123,468 acres; in 1871, 154,030 acres; in 1881, 221,888; in 1889, 413,000; and in 1890, 419,758 acres. The average yield per acre for the 10 years from 1881 to 1891 is given at 10.38 bushels per acre, against 10.01 per acre for Victoria and 6.59 for South Australia, the two great wheat-producing colonies of the group.

TASMANIA.

The area under wheat in Tasmania for 1890–'91 may be given at 55,812 acres. In 1861 it was 58,823; in 1871 it advanced to the highest figure yet reached, 63,332 acres; in 1881 it declined to 51,757 acres, and in 1889 to only 49,055 acres. The yield for the season under review will probably be larger than that of the previous one, although it is said that the crop has suffered from rust. The net import of wheat in 1890 was 186,412 bushels. In 1889 the net import for the whole of the group was 972,656 bushels, the bulk of which came from the United States. In the same year the total net external exports, chiefly to Great Britain, were 2,532,478 bushels.

WESTERN AUSTRALIA.

The estimated yield of wheat in Western Australia for the season just closed is 500,000 bushels, against 470,000 bushels for 1889–'90. The population is only 43,000. The yield in proportion to population is large in comparison with that of the other colonies, but the territory is so vast and the settlement so scattered that it is found cheaper to import grain and flour from South Australia than to transport it within its own borders.

In 1861 the colony had only 13,584 acres under wheat; in 1871 it had 21,951 acres; and in 1889, 35,517 acres.

YIELD AND CONSUMPTION.

The following table shows the annual average yield and consumption for each colony during the 10 years ended in 1889, with the surplus or deficiency in each case:

Colony.	Yield, less quantity required for seed.	Consumption.	Surplus available for export.	Deficiency to be imported.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
New South Wales	3,709,000	5,913,000	....	2,204,000
Victoria	9,445,000	6,022,000	3,423,000	....
Queensland	92,000	1,838,000	....	1,746,000
South Australia	8,600,000	1,962,000	6,638,000	....
Western Australia	297,200	385,000	....	87,800
Tasmania	694,000	874,000	....	180,000
New Zealand	7,656,000	4,172,000	3,484,000	....
Total	30,493,200	21,166,000	9,327,200	....

The importance of Australasia as a producer of wheat is but small when compared with the great wheat-producing centers of the world. Out of 2,057,000,000 bushels produced in 1889, only 42,000,000 bushels, or 2.06 per cent., were of Australasian growth.

RUST IN WHEAT.

It seems almost impossible to overcome the ravages of rust in wheat, especially along the coast, where the rains are frequent. Much attention has been paid to the subject in every one of the colonies. Mr. A. N. Pearson, agricultural chemist for Victoria, is of opinion that the experiments he has been conducting at Port Fairy, in the western district of that colony, and in Gippsland are likely to be productive of useful results. The object of these experiments is, by means of careful selection assisted by hybridization, to improve the quality of seed in respect of prolific bearing, milling character, rust-resisting capacity, and general suitability for culture. It is intended eventually to propose the establishment of a number (six or eight) of these small experiment stations, which will serve as seed depots for the colony for the maintenance and distribution of improved seed wheats suitable to the different localities and for intercolonial exchanges. In Gippsland two varieties of wheat tried this year have escaped the rust under unfavorable conditions and at Port Fairy about six varieties have escaped it. One of these latter Mr. Pearson took out of a sheaf which had the appearance of being a sprout or variation, which was pronounced to be a remarkable wheat of high value. It is Mr. Pearson's intention to get several such varieties and distribute them systematically through the colony. He recommends that a record of the different wheats be kept, showing their past history and their behavior in the different districts from year to year, and that, as they begin to show signs of deterioration in one district, they be systematically transferred for reinvigoration to another.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, March 23, 1891.

GERMAN EMIGRATION.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

Table showing the transmarine emigration from the German Empire by way of the German ports and Antwerp, Rotterdam, and Amsterdam in the year 1890.

Divisions.	Number.	Divisions.	Number.
Prussia:		Saxe-Coburg-Gotha	206
East Prussia	2,051	Anhalt	96
West Prussia	10,986	Schwarzburg-Sondershausen	118
Brandenburg (with Berlin)	4,214	Schwarzburg-Rudolstadt	[illegible]
Pomerania	8,382	Waldeck	83
Posen	11,241	Reuss (older line)	[illegible]
Silesia	2,246	Reuss (younger line)	[illegible]
Saxony	1,471	Schaumburg-Lippe	35
Schleswig-Holstein	3,917	Lippe	103
Hanover	5,929	Lübeck	77
Westphalia	2,356	Bremen	938
Hesse-Nassau	2,775	Hamburg	1,862
Rhenish Prussia	4,037	Alsace-Lorraine	923
Hohenzollern	97	Not specified	182
Total from Prussia	59,702	Total from the German Empire	91,925
Bavaria	9,725		
Saxony	2,577	1889	90,259
Würtemberg	5,987	1888	98,515
Baden	3,546	1887	99,712
Hesse	2,122	1886	79,875
Mecklenburg-Schwerin	1,133	1885	107,238
Saxe-Weimar	282	1884	143,586
Mecklenburg-Strelitz	198	1883	166,119
Oldenburg	1,001	1882	193,869
Brunswick	305	1881	210,547
Saxe-Meiningen	241	1880	106,190
Saxe-Altenburg	117		

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, March 23, 1891.

AMERICAN PRODUCTS IN ITALY.

REPORT BY CONSUL-GENERAL BOURN, OF ROME.

In the spring of 1890 I was directed by the Department to inspect the various consulates of the United States in Italy. In the course of the inspection I had frequent occasion to talk with the consuls concerning the foreign trade of Italy, with especial reference to her commerce with the United States. This commerce has been gradually but steadily increasing during the past 10 years, until its volume is now exceeded in Europe only by Great Britain, Germany, and France. We buy, however, of Italy more than we sell her. I therefore made extended inquiries in every city that I visited during my tour of inspection, for the purpose of ascertaining why Italy does not take more of our products and how our merchants can increase their sales.

I found what seemed to me a singular condition. Every consul told me that American products bore a very high reputation in Italy, and that Italian merchants were favorably disposed to deal in them; but that comparatively a small amount of our manufactures were ever imported. They also said that the prices charged in the United States, with the moderate freight charges for ocean transportation, would allow very many more of our products to be sold here in competition with the products of England, Germany, France, Switzerland, and Austria-Hungary. Thus neither the quality of the goods, the disposition of the consumer, nor the price prevents us from selling more to Italy.

In order that the merchants of the United States might be informed of the situation and of the best means to avail themselves of it, I addressed, in November last, the following letter to each of our consuls in Italy, asking them to coöperate with me in the preparation of reports which should have for their aim to answer the question, "How can the sale of American products in Italy be increased?"

CONSULATE-GENERAL OF THE UNITED STATES,
Rome, November 22, 1890.

MR.——,
Consul of the United States at——.

SIR: In my recent visitation of the United States consulates in Italy I have had more or less conversation with each of our consuls concerning the reasons why Italy does not buy more of our goods and what means our merchants could adopt to increase Italian purchases. Several of the consuls have suggested that, if all our consuls in Italy would coöperate in sending to the Department at one time such suggestions as they may be able to make on this subject, the matter could be brought more forcibly to the attention of our merchants than has been done heretofore.

Although I am aware that the subject has been a great many times reported upon, still I venture to suggest that you send me within a short time, say by January 1, 1891, a short statement or report, giving your views, so that I may forward it with my own, exactly as you prepare it, to the Department.

In the conversations referred to many suggestions have been made to me which I consolidate here for your information.

(1) The reputation that American manufactures have in Italy on account of their intrinsic value in comparison with those from other countries.

(2) The counterfeiting of American goods, whether by imitating them in poorer qualities, stamping such as American, or by counterfeiting and imitating American labels.

(3) The kind of goods that could be sold here to advantage. Among those suggested are cotton cloths, yarns and threads, prints, gas and steam coal (bituminous, best quality), breadstuffs, groceries, canned goods, lard, petroleum, cotton-seed oil, builders' hardware, sewing machines, clocks and watches, steam-engines, edge tools, mechanical tools, stoves, lumber, plated ware, and table cutlery.

(4) The means to be employed for selling, whether by circulars, advertising, travelers, samples, or branch agencies or offices.

(5) The reasons why our sales to Italy have not been greater. Is it the prices, the quality, or the want of proper means for introducing?

If American goods have—as I think they do—the highest reputation in Italy, and if the prices for such as may be enumerated are no greater than other countries charge, is it not strange that Italy does not buy of the United States as much as she sells to them? And must not the reason be the lack of proper means to introduce the goods?

I offer these simply as suggestions, and I hope that you may feel like coöperating in the matter, even though you may have presented heretofore substantially the same views.

I am, etc.,

AUGUSTUS O. BOURN,
Consul-General.

I am very glad to say that in the conversations before referred to I found every consul fully alive to the importance of the subject, and that they have responded fully and ably in the exceedingly interesting reports which I transmit herewith.

The situation of Italy is exceedingly favorable to the development of trade with the United States. She has an abundance of good and accessible harbors; there are numerous steamers regularly plying between them and the United States, landing at Boston, New York, Philadelphia, Norfolk, New Orleans, and other ports. The frequency of this steam communication can be judged from the fact that from the single port of Messina 133 steamers cleared for the United States in 1890. Freight charges between the two countries are exceedingly moderate. In fact, transportation by water from New York must cost much less than it costs by railroad from many parts of Germany, Austria, and Switzerland to the central and southern part of Italy. The mail communication between the two countries is as perfect as it can be made. Every steamer leaving our shores and carrying an European mail brings letters to Italy. Letters are often received at Rome in 10 or 11 days from New York. Telegraphic communication is as perfect as in any part of the world, the rate from New York being but 7½ cents per word more than the rate to Great Britain.

Italy has a population of over 30,000,000, of which over 69 per cent. is directly employed in agriculture. She must, therefore, import largely of manufactured goods besides raw materials, and, to some extent, food supplies, for quite a proportion of her agricultural products are raised for export, such as wine, fruit, and silk. It is in one sense a new nation, though formed by a union of states that have a history from the most ancient times.

This new Italy is rapidly developing her resources. This development in turn produces increased wants, or wants for new articles not before in demand. A striking illustration of her increased wants may be seen in the imports of coal, which, from 516,000 tons in 1867, have grown to over 4,000,000 tons in 1890.

As I have before said, the Italians are well disposed towards American goods. In fact, one of the highest recommendations that a dealer can give to his goods is to call them "genuine American," especially if the article be cotton cloth or any kind of machinery. Large quantities of cheap goods, made to resemble American, are imported from Germany and Switzerland and retailed as "American." I saw in the show windows of an extensive dry goods house in Naples a large pile of cotton sheetings marked conspicuously "American Forte" (strong American), but folded so that the words in small letters, in one corner, "Manufactured in Manchester," did not show to the casual observer. In another city I saw a similar pile stamped in large letters "Genuine American, New York," and in one corner the small letters "Manchester." American petroleum is adulterated with Russian and the mixture sold as "genuine American," for no one who can afford to buy the American will use the Russian. Examples of imitation might be multiplied, but those given are sufficient for illustration.

American manufactures have the reputation of being always good. Italian merchants have been so often deceived in having goods sent them that are not equal to the representations that it is a common practice to require samples of purchases to be left as a guaranty that the articles delivered shall be of equal quality. Among European merchants the English have the highest reputation for faithfully executing orders according to the contract of sale. But there is no doubt that Americans have, if possible, even a higher reputation for honesty and straightforward dealings.

It should be evident to anyone who considers the foregoing that the reason why American products have not been sold to a greater extent in Italy is that the merchants of the United States have not made the proper exertions to sell. But that may not be entirely their fault, for they may have never directed their attention to the field.

There are, however, beyond this reasons that underlie the entire subject of our foreign commerce. The practical result of the undervaluations possible under the tariff laws of the United States down to the time when the new customs administration law went into effect, in August, 1890, has been to build up branches and representatives of European houses there to such an extent that Americans were driven from the field, and to concentrate almost our entire commerce with Europe in those branch houses or representatives of those whose chief interest did not consist in endeavoring to promote the use of American goods abroad. While our people are quick both to avail themselves of every possible improvement in production and to originate new and improved processes and machinery; while they have carried the subdivision of labor to such an extent as to reduce the cost of production to the lowest possible sum; while they scour diligently every section of our own country by means of skillful and experienced commercial travelers in search of customers, they do not as yet seem to have paid special attention to the art of selling goods in competition with foreign nations.

I do not mean to say that all of our products can be so sold, but that there is a sufficient variety that can be sold to a large extent, if our merchants made the proper exertions, in the proper way, to sell. If we can sell 100 bales of cotton cloths in one country in competition with other nations, what reason is there why we can not sell, under the same conditions, cotton goods in other countries against the same competition?

As to the kind of products that can be sold to advantage in Italy, one has but to turn to the regularly published lists of our exports to Mexico, to Central and South America, and to Australia to gain a general idea of what can be sold to Italy. A market can be found there for the following American products, if the same means are taken to sell them that merchants of other nations employ: Lumber and staves; coal, both bituminous (best quality) and anthracite; grain, corn, flour, kerosene, lard, tallow candles, clocks, watches, stoves, wooden ware, agricultural implements and machinery, mechanical tools, machinery, steam-engines, water wheels, machine-made manufactures, organs, harmoniums, guns, pistols, plated ware, type, axes, edge tools, potted fish and meats, canned fruits and vegetables, cotton cloths, thread, yarns, and prints.

It will be noticed that none of the articles named are those whose cost is largely made up of labor. We can not expect to compete with Europe in anything in which labor forms an important item of cost; but where the machine takes the place of the hand labor we can successfully compete.

In order, however, to sell in competition with England, Germany, or the other nations of Europe, we must employ the same means that they use.

The foreign commerce of Italy is, in the north, carried on mostly by Italian houses, but in the south largely by English houses and German agencies. There are a great many English and German residents engaged in trade everywhere, but no Americans. The English send but few travelers, as they have had the market for many years and depend chiefly upon the established English houses and the reputation of their productions. The German manufacturers have representatives in all the chief cities and canvass thoroughly every part of Italy They are well supplied with samples, understand thoroughly the language and the wants of the people, and are gradually supplanting other nations, not by reason of the superiority of their goods, but because of their constant and persistent drumming. They do not advertise; business here is not done that way; the merchants are only reached by personal solicitation.

The English, Swiss, or German manufacturer sells direct to the retailer. Competition is such that there is no room for the commission houses and other middlemen who, in the United States, must add their profits and expenses to the manufacturers' or producers' price before the articles reach the retailer. Hence our products that pass through the hands of our commission houses and wholesale dealers, and thence through English or German houses on their way from the manufacturer to the retailer here, are burdened with so many charges that it is utterly impossible that they should be sold in competition with goods coming directly from the European manufacturer.

Americans do not give Italian merchants a chance to buy their goods. So little attention has been paid to the field that one can almost say that they have no travelers here and no samples. Occasionally circulars and advertisements in English are sent here, but they soon find their way into the wastebasket. Those few American houses which have thought it worth while to station representatives or to send skilled travelers here are slowly but steadily building up a profitable trade.

It would, no doubt, materially assist to introduce our products into Italy, if there could be exhibitions of them in several of the large cities. A number of American houses might, to save expense, join in providing suitable rooms, well stocked with samples of their manufactures, which should be in charge of some intelligent salesman who could explain and quote prices. But the chief reliance must be had on skillful commercial travelers who understand the language and the wants of the people and who would be quick to report to their employers what changes, if any, are required in styles or in modes of packing. The customs of the country must be followed. We can not expect to change them, but must endeavor simply to supply the wants of the people. Those houses will be most likely to succeed which establish branches in some central city, which should carry small stocks or be exceedingly well supplied with samples, and from which such travelers could be sent out regularly to every part of the country. Our merchants must not expect, however, that large sales will immediately follow the first attempts, but they may expect that with time and patience they may build up a large and profitable business.

The table herewith shows the value of the chief articles which must come from the United States:

Table showing the imports to Italy from the United States.

Articles.	Value.	Articles.	Value.
Fixed oils (not named)	$11,580	Skins, hides, and leather	$105,378
Petroleum	2,130,527	Iron and copper manufactures (including agricultural implements)	229,091
Heavy mineral and resinous oils	47,092		
Coffee	104,799	Instruments and chemical apparatus (in bronze)	112,326
Pepper and pimento	13,510		
Tobacco	3,042,569	Coal	119,274
Gums, resins, and gum resins	1,973,425	Corn	212,300
Coloring extracts of woods	76,428	Other vegetable products	17,949
Cotton	4,693,567	Salted intestines	16,791
Wool	44,390	Fish, salt and fresh	367,665
Wood, boards, timber, and worked	489,834	Lard and other fats	569,157

The question of how best to sell American products abroad is not a new one, neither is it the first time that our consuls in Italy have made substantially the same representations that are now made in these reports. But at this particular time, when our people are looking so generally for an extension of their foreign commerce, it seems peculiarly appropriate that their attention should be called to this outlet for our surplus products.

AUGUSTUS O. BOURN,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rome, February 14, 1891.

CATANIA.

REPORT BY CONSUL HEATH.

I would give it as my opinion "why Italy does not import more American goods" that it is entirely the fault of our merchants, and especially manufacturers.

Our merchants are the most enterprising in the world in buying foreign goods for our home markets, but as to introducing our manufactures in foreign countries, they are way behind other nations, notably the Germans and Swiss.

Italy being so near to Germany and Switzerland, manufacturing nations, and Austria and Russia, producing nations, it is small wonder that they supply all, or nearly all, her outside wants.

The effort of introducing American manufactured goods in Italy must come from the manufacturers themselves. To compete with the Swiss and Germans, they must sell directly to the Italian merchants. There is no room for a middleman.

American goods should find a large sale in Italy, but our manufacturers must supply the style and quality wanted in packages suitable to the trade, and not try to force unsuitable goods.

As an illustration of the folly of our cotton manufacturers in the export trade, I would cite a case which came under my own observation while a resident of Zanzibar some years ago. For possibly 25 years American cottons and prints had been and were the only salable goods of their kind for this large market. We had practically a monopoly of the trade, and as late as 1882 there were fifteen to twenty American vessels loaded with American cottons and oil for this port each year. To-day the trade is all in the hands of the German and Swiss manufacturers. Their mode of operation was this: They first studied the wants of the market, style and width of goods, sizes of packages, etc., made up samples of what they proposed to sell, and about 1880 or 1881 established direct agencies on commission in Zanzibar and captured the trade. The secret of their success was that the manufacturer dealt directly with the jobber through a resident agent. They sold any jobbing quantity wanted. The patterns were just what was wanted—large patterns and flaming colors—and, lastly, the width of the cloth and size of package were just what was needed. On the other hand, our manufacturers had always sold through a commission house (5 per cent. and expenses). The American merchant dealt with the commission house, but never with the manufacturer. He, of course, added his profit, which was generally more than 5 per cent., and on arrival of the goods in Zanzibar the cargo was sold to one buyer. Consequently, before the goods got to the merchant who retailed them, there were four profits: the mill's commission house, the merchant in America, his agent in Zanzibar, and the buyer of the cargo—at least 25 per cent. profit added to the manufacturer's net price before they reached the jobbing and retail merchant, against 2½ per cent. commission paid by the German and Swiss manufacturer. Not only was there a difference of, say, 22½ per cent. in placing the goods, but our American cottons and prints were not put up in suitable packages for the trade and had to be rehandled at large expense; also, the patterns were not popular or suitable.

Now, there is certainly a large trade in sight for American cottons and prints in Italy, and if our manufacturers wish to compete successfully for this trade they must first make the goods wanted, and, next, deal directly with the buyers in the most economical ways; there is no room for a mill agent or an American merchant. Otherwise, they can not get the trade now controlled by other European nations.

With direct and frequent steam communication between Italy and all our principal ports, including New York, Philadelphia, Boston, Baltimore, Charleston, and New Orleans, and many steamers returning to Italy in ballast for want of cargo, it would seem that Italy was a very promising country in which to push trade in such articles as cotton goods, wheat, corn, flour, cheese, oil, beef (live and salted), pork and lard, wooden wares, etc.

In fact, all kinds of produce and machine-made manufactures can be profitably sold here. Italy is a country of hand labor, where they even turn hubs for carriages and children's tops by hand.

Trade can only be carried on successfully by salesmen or agents on the spot. In all countries with a language foreign to our own it is slow work introducing goods.

As our merchants and manufacturers probably will not wake up to the benefit of trade with Italy this year any more than they have done the past 25 years, I would suggest that a bill be introduced in Congress allowing all consuls in Italy, who are so disposed, to represent American merchants and manufacturers on commission in the introduction of American products into Italy, and that a small appropriation be made—say $100 for each consulate—to pay the rent of sample room, as an experiment.

All consuls in Italy, excepting, perhaps, Palermo, have the time to devote to such work, and many would be glad to undertake it. As far as I am concerned, the work would be congenial, and I should hope for happy results.

Our magnificent trade with Australia has been built up largely by the shipping merchants engaged in the trade establishing sample rooms in the various Australian markets and bringing the Australian merchants and our manufacturers together.

The sample room is clearly what is needed in Italy, where the weights, measures, and language are so different from our own. And who is in a better position to claim the attention of merchants than the United States consuls?

If I could make a price for a steamer shipment of wheat or lard or lumber, and the price was favorable, there are at least twenty merchants in this city whom I see nearly every day who would gladly buy; but, not having the quotations and the trade being comparatively small, they buy, as of old, in England, Austria, or Prussia.

There are many goods sold in my district as American, but only petroleum is genuine.

CHARLES HEATH,
Consul

UNITED STATES CONSULATE,
Catania, December 26, 1890.

FLORENCE.

REPORT BY CONSUL DILLER.

"Is it not strange that Italy does not buy of the United States as much as she sells to them?" This subject has frequently been alluded to by me in my several annual reports to the Department. I am glad to hear that it is your intention to make a special report on this important subject, embracing, with your own, the views of the different consuls under your jurisdiction, which can not fail to be of great interest to the manufacturers, merchants, and others in the United States. In this district several spasmodic attempts have been made to introduce American goods, with, I regret to say, little success, owing in a great measure to the inefficiency of the means employed and the character of the agents.

There is no reason why our manufactures should not find a ready sale in Italy, if properly introduced and their genuineness fully guarantied. Imitations are plentiful and trade-marks continually violated. This is the best evidence of their popularity, but, unfortunately, these imitations prejudice the sale of the genuine article; the innocent purchaser, being deceived thereby, is disposed to cry out against the so-called American goods.

There appears to me to be but one certain way to prevent such gross deception, and that is by the establishment of one or more grand depots for the sale and exhibition of genuine American goods under the auspices of men fully acquainted with the details of the business and competent to explain it in all its parts. These men should be familiar with the language, the habits, and the business customs of the people, and of irreproachable business character and integrity. From these central depots reliable agents should be sent through the Kingdom with samples, when possible, otherwise with circulars, in all cases guarantying the delivery of the goods in every respect equal to sample or description.

The kinds of goods which might be profitably introduced into Italy are cotton cloths, yarns, threads, prints, breadstuffs, groceries, canned goods, lard, petroleum, and cotton-seed oil; also, builders' hardware, sewing machines, clocks, watches, steam-engines, edge and mechanical tools, plated ware and table cutlery, all kinds of agricultural machines, farm implements, and wooden ware.

In addition to the above, I can see no reason why there should not be a large trade established in anthracite and bituminous coal. Nearly all the coal used in Italy is imported from England. Anthracite coal from the United States and used principally by foreigners in stoves is very scarce and dear, retailing at about $18 per ton. Ships returning could load with fruit and marble—sailing vessels could readily ballast with both kinds of coal, which would always find a ready sale in this market—and make a fair profit.

I have alluded to the means to be adopted in introducing our products; the next question is the points to be selected for the central depots. For agricultural and farming implements, either Milan or Bologna; and for other products, from its central position and important railroad connections, Florence presents many advantages.

In closing this communication, I desire to impress upon our countrymen that Italy is surrounded by manufacturing communities exceedingly alive to every opening for trade and quick to take any and every advantage to dispose of their products. This must be met by supplying better goods and at prices which will induce their purchase. There can be no question as to the popularity of American goods in this market in the few instances where they have been successfully introduced, and when their introduction is once fairly and permanently established there need be no fear as to the final result.

It now remains for our merchants and others interested to take the proper steps to introduce their products in the best manner, and your query, presented at the beginning of this report, will find its answer in a large increase of American products in Italy.

ISAAC R. DILLER,
Consul.

UNITED STATES CONSULATE,
Florence, December 18, 1890.

GENOA.

REPORT BY CONSUL FLETCHER.

Before entering into my subject I must state that I have answered questions of nearly the same nature, to the best of my ability, hundreds of times to as many merchants and manufacturers in the United States; but, as far as this consular district is concerned, I have yet to learn of any man among my correspondents who has acted on the hints given him.

As an introduction to my answers, it is best, perhaps, to make a few statements, as they have intimate bearings on the whole subject:

(1) The reputation of American manufactures in this section of Italy is second to no country in the world. Whether the goods are the output of the mine, of the factory, of the foundry, or the immediate products of the soil, the simple appellation, "American goods," is sufficient recommendation to insure purchasers, provided the merchandise is offered at prices within reasonable competition with similar goods from other countries. To-day American sewing machines lead all others. American clocks and watches have a good demand. Notwithstanding it costs more than the Russian brand, American petroleum is the choice of the people of Genoa. American flour is eagerly sought after. Captains of vessels entering this port from ports in the United States can readily dispose of any surplus salt meats, bacon, and hams to ship brokers, who in turn place the purchase in bond and sell later on at a handsome profit. In fine, American goods of every description, can be sold here, if our merchants and manufacturers would use one-quarter of the energy in introducing their wares abroad that they use at home.

(2) Much counterfeiting of American goods is carried on, but any person at all familiar with the genuine can readily detect the spurious article, for the latter is usually a bungling affair. Cutlery, clocks, stoves, lamps, plated ware, sewing machines, locks, etc., are counterfeited; but these articles are so unfinished that no one can be deceived by such shams except the most ignorant.

The word "counterfeiting" has not as grave meaning here as in the United States. The milder word "imitating" would apply, perhaps, better in this case. To the credit of the people of this district it must be said that they are not so much the transgressors in the matter of imitating, or counterfeiting, American goods as their neighbors of other nationalities, who bring their stock in trade here and offer it for sale as of American production.

(3) What goods of American manufacture can be sold to advantage here? may be asked. Two words will answer this question: all kinds, except, perhaps, heavy agricultural machinery. Lofty mountains, bold and barren, constitute about four-fifths of the area of this consular district.

American threads would be a blessing to the people here. The spool cotton sold in Genoa is, perhaps, the worst stuff ever offered for sale in any market in the world.

The lumber and stave trade could be largely increased, although these products of the American forests are well represented in this district; still, in the opinion of good business men here, the trade could be increased many fold by perseverance. Florida furnishes Genoa with many shiploads of lumber annually and New Orleans and Newport News with large quantities of staves.

About 1,494,000 tons of English coal were deposited in the port of Genoa during the year 1890. The best Cardiff coal sells at 30 francs per ton the year around and Newcastle at 25 francs per ton. Coke sells here at from 40 to 45 francs per ton. The average freight on coal per ton from Cardiff to Genoa throughout the year was 8*s.* 6*d.* and from Newcastle 7*s.* 6*d.* The above items may interest our coal merchants at home.

From personal knowledge I can make no comparison between American and English coal, but I have before me a copy of a dispatch sent to the Department under date of May 30, 1878, by Mr. O. M. Spencer, who was consul at this port at the time, in which dispatch the gentleman made the following comparisons:

"Two cargoes of anthracite coal have been shipped to this port by a Philadelphia company with a view of opening up a market for American coal, and the experiment, which at one time seemed likely to prove a failure, has been attended with the most gratifying effects. When this coal was first placed upon the market, the highest price bid first was only 22 francs per ton, an amount insufficient to cover the freight from New York. Subsequently, however, on its becoming known that it was well adapted for smelting purposes, the price at once advanced to 40 francs per ton, which covers original cost and freight and leaves a fair margin for profit."

Now here is a point worthy of consideration.

Mr. Spencer goes on to say:

"Heretofore English coke, which is selling at 60 francs per ton, has been used almost exclusively by Italian iron founders; but, as the American anthracite, after repeated experiments, gives equal, if not superior, results, there seems to be no reason why it should not supersede its English rival in the Italian market. It appears from reliable information that the amount of English coke consumed in the Mediterranean basin is over 200,000 tons annually, to say nothing of other European ports. For this trade the American anthracite bids fair to become a successful competitor, thereby furnishing a much needed outlet for the surplus production of our numerous coal fields."

In 1878 Genoa purchased of England 405,677 tons of coal, besides buying the two cargoes of American anthracite. Last year, as stated elsewhere, Genoa's purchase was about 1,494,000 tons, but not 1 ton of it came from the United States.

Ocean freights are lower to-day than in 1878, and the number of foundries has largely increased in this consular district within the past 12 years. If American coal showed such superior qualities for smelting purposes years ago, and it paid the owners a profit to sell it here, would not the same conditions hold good to-day, if tested? The demand is great for coal. Sarona alone, a seaport town in this province and about 20 miles from Genoa, purchased direct from England 435,690 tons last year.

Now, to the question presented at the commencement of this article, why Italy does not buy more American goods, etc.

Italians, like all other sensible business people, do not care to purchase what they have never seen; neither do they care to pay John more than they do James for about the same article. In other words, American manufacturers try to sell their goods in Genoa by circulars and by letters. English, French, German, and Austrian manufacturers do sell their wares, some through their traveling salesmen and others through regularly established local agencies. All have samples from which to select, except, perhaps, heavy hardware dealers. These facts transfer American circulars and letters to the waste basket, and, if sent by the wagonload, they would share the same fate.

Speaking on the subject to a prominent Genoese merchant a few days ago, he made this remark: "Your manufacturers must have a poor opinion of our business qualifications if they think we will send between 4,000 and 5,000 miles away for goods we only know of by hearsay and by circulars when we can purchase just what we require by samples before us. Those who send us circulars—at least many of them—instead of giving quotations, ask us to write for prices."

The above answers the first proposition of the question. Now for the second part, what means our merchants could adopt to increase their trade in this country (Italy).

In an able article on this subject, our consul-general at Frankfort answered this question under date of June 16, 1884 (CONSULAR REPORTS No 50, published February, 1885, pp. 247–249).

The following is the closing paragraph of Mr. Mason's report, from which his views may be easily gathered:

"When the same energy, persistence, and foresight which are now displayed in the manufacture of American goods are turned to the work of selling them, there will come the crisis of competition which Europe will have cause to dread. When American merchants establish permanent agencies in the new countries where Germany, France, and England are now competing for commercial advantages; when young men are sent to these agencies to learn the language and study the habits and wants of the people; when American goods are made, packed, marked, and in every way adapted to the peculiar notions and requirements of the people for whose use they are destined; and when the foreign service of the United States is placed upon the secure and sustained footing that has been found most advantageous by other nations, then it will be found that the people who have created a great nation within a century are merchants as well as manufacturers and farmers; that they know how to sell as well as create. There will then be heard far less than now of strikes and crises in American industry, and the United States will have taken the high and influential position as a commercial nation to which it is entitled by its unequaled resources and the energy, enterprise, and progressive spirit of its people."

I indorse every word in that report.

Italy is ripe for American merchandise of every kind; but she must see what she is purchasing. A syndicate of American manufacturers could be formed, and trusty men could be sent over here to display the merchandise. Even if only running expenses were the result of the first year's trial, the seed will be sown for future profits. There will be no trouble to find ships to transport the goods, although, unfortunately, there are only few vessels bearing the Stars and Stripes coming here.

The Phelps Brothers' fine line of steamers ply regularly between American and Italian ports; also the Anchor line. The Florio-Rubattino steamers are frequent visitors between New York and Genoa. English freight steamers come here loaded with cotton, petroleum, tobacco, and general cargoes from ports in the United States. Sailing vessels of nearly all nationalities come freighted to this port from the west Atlantic ports. One hundred and nine bills of health were issued last year from this office to vessels going to the United States. So, with these facts before them, our manufacturers can see that there need not be any uneasiness on the transportation question.

Permanent sample rooms or stores are what are needed here, with energetic men to run them. The owners of the merchandise must be content with smaller profits than at home.

JAMES FLETCHER,
Consul.

UNITED STATES CONSULATE,
Genoa, January 17, 1891.

LEGHORN.

REPORT BY CONSUL RICE.

Our consul-general at Rome has expressed a desire that all the consuls within his general jurisdiction should give their opinions concerning the best method of promoting and increasing the trade between Italy and the United States, at the same time furnishing statistical information concerning the amount of imports received at their different ports from the United States during the years 1888, 1889, and 1890, as also the exports during the same period. This request I have endeavored to carry out as far as within my power, as will be seen by the within tables; but I must beg the Department to bear in mind that the statistics for 1890 have not, up to date, been made up or rendered to anyone—not even in the office of the Italian custom-house—so that all the figures in this report for 1890 are taken from my own import and export books.

It is my opinion that the only hindrance to the establishment of a permanently profitable and ever-increasing import trade from the United States to this country is the great lack of proper means for introducing American goods to the Italian market, and, further, the want of knowledge as to the most suitable wares to import, with regard to the quality, make, and the tastes prevailing at the moment of doing business.

It appears to me that all these requirements can not be met, unless our merchants (as elsewhere stated) manifest greater interest in studying the requirements of the Italian consumer and more readiness to dispatch to this country competent representatives with powers to establish agencies, when advisable, to sell in gross or detail, and generally to diffuse amongst the Italians an acquaintance with American goods and a knowledge of their worth and utility.

I have endeavored, as far as possible, in a table annexed hereto, to set forth the values of the different items of imports from the United States to this port for the years 1888 and 1889, the latest statistics obtainable. Reference to this table will show that the total value of the imports for the year 1888 was $1,521,033 and $1,988,369 in 1889, being an increase of $467,336, and that the most substantial item of the imports is tobacco, the value of which for the year 1888 was $1,065,066, while in 1889 the value of this commodity amounted to $1,671,159, or an increase of $606,093, a very considerable advance, though not in excess of what might have been expected.

Next in value comes petroleum, with $268,697 for 1888 and but $201,420 in the following year, that is to say, a decrease of $67,277, a result which may be explained to a certain extent by the fact of the establishment, within the period named, of a reservoir for the reception and storage of Russian petroleum. This tank is capable of containing something like 3,000 tons of oil. The reservoir has been constructed by Messrs. Nobel, of St. Petersburg, upon a site given by the municipality of Leghorn. The oil is conveyed in bulk to this cistern by means of tank ships direct from Batoum, and there is every reason to presume that the supply from this source will go on increasing, in which case a proportionate decrease in the shipments from America may be expected.

We have here an instance of the benefits likely to accrue to merchants who have sufficient acumen to perceive and seize upon any opening in an industry and sufficient enterprise to introduce methods better calculated to meet the requirements of any special trade. Workshops have also been established by Messrs. Nobel in connection with this reservoir for the manufacture of wooden boxes and tin cases, in which the oil is ultimately sent by land wherever a demand arises.

Of mineral oils other than petroleum, we see that the value of the imports for the year 1888 amounted to $75,080,000, while in 1889 no consignments whatever would appear to have been received at this port. This may be partially accounted for by the fact of large quantities having been acquired on favorable conditions with a view to profiting by an anticipated rise; therefore, we may look upon these figures as being rather the result of unnatural inflation during one year than as an extraordinary depression during another.

Here it might be as well to call attention to a fact which might otherwise appear rather unaccountable, viz, that where but little business is done the tabular values of different items imported are apt to show great variations between one year and another, owing to the very simple cause that a large number of the sums stated represent single shipments in some cases and in others consignments to individual firms. Where this is the case, it may be very readily supposed that a steady import can not be maintained and that considerable fluctuations must inevitably occur.

The next most important item in the table, and one which manifests a very unsatisfactory decline in the period embraced, is copper ore; but, on the other hand, there is a very appreciable increase in the value of copper and bronze imported during the same time.

Machinery shows a very marked falling off as regards the value of the quantity imported, which, during the year 1888, was $16,200 and no more than $4,500 in 1889; but, with regard to this latter, the decrease is no greater than might have been foreseen, having regard to the heavy duty imposed by the Italian customs tariff upon all machinery and iron and steel manufactures imported into the Kingdom, duties which, combined with bounties granted to shipbuilders, tend to make the construction of ships and their machinery particularly profitable in Italy.

The table of exports from Leghorn and Carrara during the years 1888–'90 shows that the value of the exports for 1888 was $1,738,851.22; that it had increased by $345,280.54 in 1889, viz, to a total of $2,084,131.76, which again had advanced by $321,675.40 in 1890 to the sum of $2,405,807.16. This increase, not being so large as that for the previous year, would lead us to infer that a tendency towards a more equitable ratio between the imports and exports is being gradually established.

It is not necessary to enumerate seriatim the different items of import and export, as a glance at the annexed tables will show their value, as far as it can be at present ascertained.

Here it may be as well to mention the opinion of an American resident in Leghorn, and one of its most influential merchants, upon the subject of increasing the American imports.

He says that questions put to him concerning particular articles of commerce can only be answered by dealers in such articles, and the demand for American manufactures has, up to the present, been very small. He adds that, when firms desire to place their goods upon the Leghorn market, "they must do as the English manufacturers do—send out their agents with samples, so that the Italians may learn how their goods compare in quality and price with products of other nations." He further adds that "the sales must be upon this footing alone, and not upon name or label," as he is impressed with the idea that the Italians are very favorably disposed to deal with Americans, but they must see the productions and test them.

This opinion precisely coincides with what I myself have stated elsewhere, and I may say that in the prosecution of inquiries as to the possibility of steps being taken to promote and establish an export trade to Italy it is the opinion of the majority of the most experienced men and those most directly interested in this species of trade that the only really efficient system, and one which at the same time would be conducive to permanent, sound, and lucrative commercial relations, is the method which has been adopted by most of the German and British exporting houses, and which long experience in their particular branches of trade has proved to be the most practicable. The system alluded to may be briefly set forth as follows: Each particular exporter sends a competent representative (a member of the firm or otherwise, according to circumstances), charged to carefully study the requirements of the foreign market, the prevailing tastes and necessities of the moment, and the prices at which certain articles can compete with domestic manufactures; he visits the principal industrial and other establishments in his particular line of business, and, after a careful and complete inspection, decides for himself where and how he can best dispose of his wares to the greatest advantage. It is thus alone that American merchants can succeed in disposing of their goods in the most desirable and lucrative manner and in securing themselves against keen and active competition, whilst manufacturers are saved from the possibility of loss and vexation by publicly exhibiting abroad (through a too superficial knowledge of the state of the foreign market) either inappropriate or new and popular goods with the result that the former would prove unsalable and the latter might be closely imitated before they themselves could take advantage of a favorable market. The exporter would then be enabled, by his intimate acquaintance with the state of the market, to maintain a constant supply of the goods which are most in demand and to keep it supplied to its fullest capacity, while at the same time carefully excluding those goods which would be unsuitable, and which, if exported, would only lead to loss and disappointment; whilst the success of the manufacturer is only made dependent (as it would be under any other system) upon his ability to compete with rival establishments at home and abroad. While I have assumed this system to be the most suitable for this district, I will not assert that it would be equally adapted for others; but it is evident that trade would receive a great impetus if only our merchants could be brought to rely more upon their own representatives and agencies here than upon any particular label or mark.

If American manufacturers would avail themselves more of reliable information, acquired through correspondents of their own sending, to ascertain the precise class of goods that are in demand at any particular times or places and to judge whether they could be produced and imported at a profit, the first steps in the right direction would then be taken and a gradually increasing import trade be established with this port.

The principal articles of import advisable would be tobacco and oils, as heretofore, supplemented by a greater supply of such items as machinery, agricultural implements, stoves and ranges, mechanical implements, edge tools, plated ware, table cutlery, groceries and canned goods, etc., in some of which no trade at all can be said to exist at present.

I do not stop to enumerate all the manufactures in which advantageous dealings might be established or simply augmented, as the case may be, but have briefly touched upon a few articles which, in my estimation, would be the most suitable and give the greatest return to our merchants.

And, in this connection, I must say that a vast field for future expansion of enterprise is open to manufacturers of certain of the items specified, for the reason that some of these goods such as they obtain in America are almost entirely unknown here, whilst others, though not produced in Italy, are imported in comparatively small quantities, and would therefore sell the more readily, though not at present able to compete successfully with those of foreign manufacture on account of greater care and more experience having been brought to bear on these latter with regard to their suitability, quality, and make and the greater knowledge acquired as to the demand, which is a natural consequence and only what might be expected after a number of years of working up in any particular line of business.

As the Honorable Assistant Secretary is fully aware that reports of this nature entail considerable time and keep the consul himself and his clerical force worked up to their utmost limit of time, I have deemed it but an affair of simple justice and lenience to embody with this one the usual statistics sent in our annual résumé giving a statement of exports from Leghorn to all countries during the years 1888 and 1889 and a statement of imports received at Leghorn from all countries during the years 1888 and 1889, also tables showing the navigation at the port of Leghorn during the years 1888 and 1889, thus comprising in one report the requests of the honorable consul-general and the annual requirements of our Department. I do not do this with any wish or desire to shirk responsibility; but this office has a great deal more clerical and desk work than any other consular office in the Mediterranean, and the calls for reports are so frequent that if sufficient attention is paid to them the service must otherwise suffer.

IMPORTS AND EXPORTS AT LEGHORN.

Table showing the imports received at Leghorn from all countries during the years 1888 and 1889.

Articles.	1888.	1889.
Alcohol and other spirits	$18,651.33	$37,220.43
Acids	209,241.72	40,085.58
Beer	3,211.71	2,881.86
Biscuits	5,700.45	1,161.60
Books	8,351.49	4,425.87
Bran	11,837.65	7,433.03
Butter, fresh and salted	27,333.81	43,314.83
Cotton-seed oil	62,983.26	8,083.61
Coffee	356,491.07	328,870.84
Chicory	8,318.68	24,067.48
Confectionery and preserves	4,972.25	5,340.69
Cocoa	3,885.09	4,700.32
Chocolate	299.53	194.73
Cotton, raw	137,466.95	152,971.22
Copper, brass, and bronze	331,766.03	374,577.88
Coal	931,446.57	1,190,855.93
Cheese	26,947.04	26,672.20
Coral	67,631.06	85,128.44
Coins, gold and silver	364,889.66	330,628.30
Chemicals	26,860.19	51,035.18
Drugs and medicines	98,116.18	209,662.68
Dyes and paints	176,139.24	104,897.46
Earth and stones	64,086.42	89,027.92
Earthenware	7,620.82	6,773.91
Firearms	2,566.12	1,416.81
Fruits, fresh and dry	91,441.66	155,547.19
Fish, dry and preserved	1,361,550.70	1,481,863.91
Grain	1,365,676.23	2,507,721.18
Glassware	20,184.90	17,042.47
Grease and wax	90,229.62	163,724.39
Glue	6,196.61	5,029.77
Hair	12,804.39	73,437.85
Hides	590,523.15	543,955.06
Haberdashery	48,540.85	39,549.56
Iron and iron works	730,709.31	757,894.98

Table showing the imports received at Leghorn from all countries, etc.—Continued.

Articles.	1888.	1889.
India rubber	$15,232.13	$14,358.42
Lead	20,450.08	11,793.65
Mineral waters	6,737.05	4,451.71
Manufatcures of—		
Jute and hemp	202,597.11	198,398.01
Cotton	473,128.65	747,354.47
Wool	164,517.25	212,211.41
Silk	101,936.81	149,831.11
Machinery	120,101.39	442,078.46
Marble:		
Wrought	1,649.76	2,241.69
Statues	8,098.18	7,929.36
Musical instruments	6,707.13	20,344.41
Manure	7,152.02	21,224.78
Oil:		
Olive	97,556.28	34,385.98
Mineral	392,608.26	354,934.14
Optical instruments	31,760.04	20,792.85
Oats	20,810.00	31,587.92
Paper	19,297.10	14,837.45
Sugar	60,257.33	138,984.89
Spices	43,641.61	57,922.81
Soap	2,875.89	9,768.50
Straw hats	9,587.66	17,947.64
Starch	12,661.57	8,612.04
Seeds	9,846.28	190,110.59
Tea	3,050.96	3,574.36
Tobacco:		
Leaf	1,459,333.60	1,710,430.65
Manufactured	1,606.33	1,754.94
Tin	49,286.98	32,138.55
Wine	8,197.67	2,637.73
Wool	214,662.51	467,174.61
Wood and utensils thereof	75,229.27	44,285.39
Watches and clocks	71,164.45	91,711.97
Zinc	27,990.79	35,329.61
Total	11,014,403.27	13,985,335.26

Table showing the imports at Leghorn from the United States for the years 1888 and 1889.

Articles.	1888.	1889.
Bicarbonate of soda	$250	
Cotton	14,500	
Cotton-seed oil	1,940	$6,760
Coffee	1,000	
Copper ore	33,000	
Copper and bronze	16,000	70,000
Corn		24,560
Dyewoods	2,500	1,000
Extract of logwood	2,400	4,800
Furniture wood	2,500	600
Grain	2,500	
Greases	1,700	
Machinery	16,200	4,500
Mohair	1,500	
Mineral oils, other than petroleum	75,080	
Petroleum	268,697	201,420
Staves	1,200	2,700

Table showing the imports at Leghorn from the United States, etc.—Continued.

Articles.	1888.	1889.
Turpentine	$5,000	
Timber	8,000	$150
Tools	2,000	780
Tobacco	1,065,066	1,671,195
Total	1,521,033	1,988,365

Table showing the exports from Leghorn to all countries during the years 1888 and 1889.

Articles.	1888.	1889.
Acids	$128,077.53	$195,080.92
Alabaster, wrought	1,699.75	3,614.89
Alcohol	351.06	5,218.91
Animals, live	14,483.68	18,703.24
Books	5,976.63	8,905.59
Boots and shoes	7,489.19	10,745.27
Confectionery and preserves	365,306.34	568,585.91
Carriages and carts	1,785.25	4,128.07
Copper, brass, and bronze	45,307.90	8,711.05
Corn	25,871.26	
Cheese	11,078.58	34,744.82
Coral, manufactured	614,898.00	545,313.78
Drugs and medicines	330,241.77	630,645.22
Dyes and paints	25,561.30	8,084.70
Earths	50,911.82	69,349.91
Earthenware	17,150.94	29,326.50
Furniture	48,762,02	42,343.81
Fruits, fresh and dry	52,111.37	86,309.21
Flour	13,255.04	2,962.74
Fish, dry and preserved	32,711.01	158,748.67
Fine arts	45,371.59	85,750.07
Glassware	1,316.06	3,925.04
Glue	879.88	642.69
Haberdashery	3,103.05	4,566.18
Hemp, raw	506,171.09	633,974.14
Hair	1,127.12	6,859.99
Honey	22,576.94	13,961.42
Horns		2,826.97
Iron	4,465.81	6,568.17
Jute		565.10
Jewelry	555.64	1,245.62
Mineral waters	1,283.83	4,659.79
Manufactures of—		
Hemp and jute	100,312.94	157,185.67
Cotton	14,528.65	43,394.69
Wool	3,299.91	17,383.89
Silk	108,884.87	88,894.08
Mercury	230,967.66	379,372.43
Machinery	7,111.27	16,739.85
Marble:		
Wrought	69,865.03	141,034.94
Slabs	123,255.97	164,151.90
Tiles		4,453.89
Statues	77,200.00	36,670.00
Marble and alabaster works	487,386.14	644,484.90
Meats and poultry	168,100.29	82,548.03
Musical instruments	1,776.17	1,905.87
Manure	1,553.33	1,683.92
Olive oil	490,827.95	846,308.66
Optical instruments		1,198.53

Table showing the exports from Leghorn to all countries, etc.—Continued.

Articles.	1888.	1889.
Oats	$303.78	
Paper	24,382.65	$28,641.97
Rags	71,803.52	106,950.56
Rice	10,365.45	3,653.14
Spices	286.99	2,244.39
Soap	92,835.12	118,067.36
Straw hats	213,778.35	168,898.73
Skins	346,078.72	670,584.29
Seeds	33,448.44	23,201.68
Tobacco, manufactured	19,313.96	5,611.47
Wax	10,589.06	7,871.92
Wine	90,957.35	128,765.35
Wool, raw	33,022.94	50,503.66
Wood and utensils thereof	132,302.07	164,640.38
Total	5,354,420.03	7,304,114.52

Table showing exports from Leghorn and Carrara to the United States during the years 1888, 1889, and 1890.

Articles.	1888.	1889.	1890.
Alabaster works	$22,450.90	$19,357.58	$16,596.25
Argols	228,346.39	167,562.20	180,498.02
Aniseed			96.40
Boracic acid	25,276.10	40,555.90	30,377.42
Beans	30,337.18	23,219.61	102,154.73
Beeswax	2,760.99	519.29	5,431.97
Brier wood	9,723.20	16,474.95	20,103.77
Bitumen			1,022.59
Candied citrons	123,321.37	269,079.84	361,213.28
Cheese	4,201.06	19,035.19	21,674.58
Coral, manufactured	781.89		
Cattle hair	264.32	186.41	916.73
Chalk	154.42	172.40	
Fruits, dry	19,127.53	5,576.06	7,634.91
Furniture	8,908.84	5,588.32	
Fine arts		654.04	154.40
Glycerine		1,041.84	1,926.02
Gentian root	1,357.76		
Hemp	2,738.68	1,875.41	21,781.84
Iron ore	139,411.86	227,087.46	393,455.78
Juniper berries	12,424.78	5,335.18	3,660.48
Laurel:			
Leaves	866.61	42.52	838.74
Berries	406.81	473.06	
Macaroni	249.67	20.10	40.05
Marble:			
Block	341,158.57	390,414.41	404,191.31
Worked	23,498.31	26,707.42	20,293.47
Statuary	58,629.96	66,582.45	53,318.70
Slabs	108,538.38	118,165.29	101,636.85
Tiles	829.17	1,746.27	5,529.82
Olive oil	159,441.04	196,661.91	195,003.35
Orris root	15,534.89	11,226.45	28,564.47
Pumice:			
Stone	45,349.94	57,000.75	44,624.35
Bricks	242.82	278.58	464.90
Paintings			541.07
Rags	193,223.94	210,899.00	185,958.81

Table showing exports from Leghorn and Carrara to the United States, etc.—Continued.

Articles.	1888.	1889.	1890.
Soap	$123,350.56	$157,195.56	$149,689.22
Soap stock	1,996.95	5,392.48	417.10
Sienna earth	11,560.13	8,527.04	8,286.63
Seeds	425.48	3,625.50	1,565.86
Sausages	....	....	392.22
Talc	2,393.30	3,105.86	4,428.96
Tar	282.75	....	....
Umber earth	7,199.94	10,852.29	10,792.16
Wool	3,479.81	....	....
Wine	5,749.99	6,617.51	13,818.89
Miscellaneous	2,854.93	4,976.63	6,711.16
Total	1,738,851.22	2,084,131.76	2,405,807.16

NAVIGATION AT LEGHORN.

Table showing the navigation at the port of Leghorn for the years ended December 31, 1888 and 1889.

ENTERED.

Flag.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1888.						
Austrian	7	2,949	3	2,254	10	5,203
British	329	322,839	20	4,175	349	327,014
Belgian	11	8,826	....	....	11	8,826
Danish	8	4,596	....	....	8	4,596
Dutch	30	22,980	1	142	31	23,122
French	243	87,176	2	167	245	87,343
German	31	33,365	1	505	32	33,870
Greek	7	4,040	7	1,916	14	5,956
Italian	1,231	678,881	1,081	83,750	2,312	762,631
Norwegian	6	3,602	5	1,998	11	5,600
Swedish	5	3,858	1	518	6	4,376
Spanish	4	5,535	6	850	10	6,385
Turkish	....	....	1	216	1	216
Tunisian	....	....	1	46	1	46
United States	....	....	1	331	1	331
Total	1,912	1,178,647	1,130	96,868	3,042	1,275,515
1889.						
Austrian	3	1,760	1	288	4	2,048
British	343	359,664	19	5,971	362	365,635
Belgian	15	14,558	....	....	15	15,558
Danish	6	4,438	6	966	12	5,404
Dutch	27	18,686	....	....	27	13,686
French	222	75,066	4	596	226	75,662
German	33	34,891	....	....	33	34,891
Greek	2	1,200	29	7,733	31	8,933
Italian	1,106	700,562	2,425	125,069	3,531	825,631
Norwegian	11	8,815	1	113	12	8,928
Russian	....	....	2	1,305	2	1,305
Spanish	1	976	6	779	7	1,755
Turkish	....	....	4	535	4	535
Swedish	5	3,551	....	....	5	3,551
Total	1,774	1,224,167	2,497	143,355	4,271	1,367,522

Table showing the navigation at the port of Leghorn, etc.—Continued.

CLEARED.

Flag.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1888.						
Austrian	7	2,949	2	1,200	9	4,149
British	332	328,118	25	4,996	357	333,114
Belgian	11	8,826			11	8,826
Danish	8	4,596			8	4,596
Dutch	30	22,980	1	142	31	23,122
French	243	87,176	2	167	245	87,343
German	31	33,365	1	505	32	33,870
Greek	7	4,040	7	1,700	14	5,740
Italian	1,228	667,381	1,092	84,750	2,320	752,131
Norwegian	6	3,602	5	1,998	11	5,600
Swedish	5	3,858			5	3,858
Spanish	4	5,535	6	850	10	6,385
Turkish			1	216	1	216
Tunisian			1	46	1	46
United States			1	331	1	331
Total	1,912	1,172,426	1,144	96,901	3,056	1,269,327
1889.						
Austrian	3	1,760	2	425	5	2,185
British	345	360,063	18	5,119	363	365,182
Belgian	15	14,558			15	14,558
Danish	6	4,438	6	966	12	5,404
Dutch	27	18,686			27	18,686
French	222	75,066	4	596	226	75,662
German	33	34,891			33	34,891
Greek	2	1,200	27	7,031	29	8,231
Italian	1,102	698,402	2,401	124,011	3,503	822,413
Norwegian	11	8,815	1	113	12	8,928
Russian			2	1,305	2	1,305
Spanish	1	976	6	779	7	1,755
Turkish			4	535	4	535
Swedish	5	3,551			5	3,551
Total	1,772	1,222,406	2,471	140,880	4,243	1,363,286

WILLIAM T. RICE,
Consul.

UNITED STATES CONSULATE,
Leghorn, January 14, 1891.

MESSINA.

REPORT BY CONSUL JONES.

American goods, with but few exceptions (as petroleum, lard, and sewing machines), are unknown in this part of Sicily.

This district is mountainous and so rolling that plowing is out of the question, hence there is no local demand for improved agricultural labor-saving machines, in the production of which our country excels. All agricultural work is done by hand, and the land is devoted to the lemon, orange, fig, and nut trees. The peasants who tend these crops have few, if any, artificial wants, hence Messina has no back country to consume foreign importations, except wheat and smoked or salt fish. American flour finds no sale; it is too dear for the Sicilian, who prefers to buy wheat in the Black Sea, landing it at the very doors of the steam and water flour mills that exist here and in Calabria. The Black Sea wheat turns out a flour inferior to ours, but cheaper.

Since 1880, when Messina ceased to be a free port, all merchandise entered at this port has been subject to the tariff existing for the whole Kingdom, and the imports from abroad of cotton textiles, as well as of many other articles, have greatly decreased, their place being taken by national industrial products. The latter, first, from being protected for a number of years by the premium on gold (1874 to 1883), and, secondly, by the increase in import duties, have developed rapidly and reached such a point as to successfully meet foreign competition, especially as concerns shirtings, homespuns, etc., which constitute the principal articles of consumption in Sicily. There is an establishment at Messina that produces prints, the calicoes used being imported from England, the duty on the same being comparatively light, and the printing is done at a very handsome profit. They have still much to learn in this art, but, as the great majority of the population seeks cheapness rather than quality, this establishment finds ready sale for its goods both in Sicily and on the mainland.

Of late years Germany has been slowly but surely supplanting England in the dry goods trade, furnishing inferior articles at slightly lower prices. The upper classes in Sicily, male and female, devote much time and attention to dress, and, essentially thrifty withal, they prefer saving a few cents per yard by buying an inferior article that will look well for 1 year (they rarely appear two seasons in the same costume) to paying a little more for a first-rate article that would last some 4 or 5 years.

American lard, although paying a Government duty of $5 per cwt. and a further *dasio-consumo* (communal) duty of $5 per cwt., brought from Genoa, is extensively sold here.

The importation of cotton-seed oil is prohibited by law. Chicago canned beef is occasionally to be found at the grocers', the foreign residents being its only patrons. The Sicilian finds it more economical to buy butchers' meat, because imported canned meats pay a heavy import duty and a heavy *dasio-consumo* tax.

With regard to the means to be employed for introducing American goods on this market, it is safe to say that circulars, advertisements, samples, and travelers are useless. If American goods are to be introduced here, it will be by means of branch agencies conducted by energetic men, speaking the language and acquainted with the wants of the people.

It seems strange that, of the 133 steamers (20 of which were Italian and 113 English) that touched at this port during the year 1890 on their way to the United States, not one should have brought American goods on their return. These steamers carry raw materials and products of the soil (sulphur, argols, wine lees, nuts, oranges, lemons, lemon juice, and essences) from Sicily to the United States, but, returning to Europe, they bring back cotton and grain to England, where they load with coal and general merchandise for the Mediterranean countries. Petroleum is the only American product imported directly (by sailing vessels) into Messina; although dearer than the Russian petroleum, it is much preferred.

Before long we may expect to see American fruit box shooks once more on this market, as, under the new tariff bill, the box containing the fruit, if made of American shooks, is admitted free of duty; otherwise, each box pays a duty of from 5 to 6 cents.

While goods of American manufacture have not as yet been introduced into this portion of Sicily, it is through the credits opened in favor of Messina shippers by merchants in the United States and the Messrs. Phelps, of New York and Liverpool, that the greater portion of the large orange and lemon crop tributary to this port is annually moved, such is the competition among fruit importers in the United States to control consignments.

WALLACE S. JONES,
Consul.

UNITED STATES CONSULATE,
Messina, January 10, 1891.

MILAN.

REPORT BY CONSUL PEPPER.

(1) The importation of American manufactures into this consular district is very insignificant, and it is equally true of other parts of Italy, though it is generally acknowledged that many American goods are superior in quality when compared with the same articles imported from other countries. The reason for this smallness of imports is partly explained in response to question No. 5.

(2) I have not heard that American goods are counterfeited by those made in Europe of an inferior quality or that American labels are also counterfeited.

(3) Of the American goods to be sold advantageously here, the following articles are likely to have a large sale: Cotton cloth, threads, prints, canned goods, petroleum, watches, clocks, leather cloth, sewing machines, and stoves. Hardware of various kinds is in great demand.

(4) The most effective method to secure profitable results would be in the establishment of American stores here in Milan and in the appointment of traveling agents furnished with samples. These commercial travelers would doubtless make permanent customers, who from time to time would inform him of the goods most salable.

(5) The Italians, like other people, buy their supplies in different places. With them, as with others, the principal thing is to buy where they can secure the cheapest rates. The question most essential for our people to consider is, can they compete with those of Europe? If they are able to do this, then there is no doubt but that American manufactures will be abundantly and profitably disposed of in Italy. However, I must invite your attention to this consideration—that it is not always the best article which is asked for, as it necessarily follows that such goods would be more expensive, therefore out of the market.

Such articles as letter cloth are imported from England and France. Let our American manufacturers produce a similar article of the same intrinsic value as that of these European competitors. If our business men can furnish a similar article for the same price, this will materially help their sale and make our goods very popular. There is one hindrance which must be remembered—the freight charges, which are higher for America than for Europe.

Can Americans compete with Messrs. Clark, Coats, and others in the article of show cotton?

I understand that India-rubber shoes made in our country have now a large sale here, because they are superior to those imported from France and Germany.

Lumber is brought to Italy from Canada. As we have an abundance of timber of every variety, fitted for every purpose, it might be as easily imported from the United States.

GEO. W. PEPPER,
Consul.

UNITED STATES CONSULATE,
Milan, December 13, 1890.

NAPLES.

REPORT BY CONSUL TWELLS.

In regard to hardware, it is necessary to state that Italy uses only an inferior quality, for the reason that consumers will not pay the price required for a superior article, and in consequence American goods of this class are but little known here; but I am of the opinion that if the opportunity were offered by which genuine American hardware could be obtained at a reasonable price large sales could be effected in Naples. The goods that are now sold as being American are for the most part mere imitations made in Germany, and, although cleverly imitated, are of a very poor quality. These goods are introduced into Italy through the efforts of European commercial travelers, and are sold as of American manufacture, and so called and branded.

Agents for American houses are, I am sorry to say, seldom met with in Italy, and American goods do not come here directly, but through English and German houses established in London and Hamburg, and pass through so many hands before they reach this country that the price at which they are sold has to be largely increased to make up for the charges of the commission men through whom they pass. Indeed, it is said that the original price has to be nearly triplicated to cover this unnecessary expense.

Italy, I am informed, does not manufacture hardware, or, if so, to a very limited extent, and therefore is obliged to import everything used in that line principally from England, France, and Germany.

Only one or two American manufacturing companies have made an effort to establish a footing in this market, and it is strange they do not, for it is certain they could overcome the competition and secure a large and profitable trade if the goods were sent directly to an agent here, thus avoiding the commission at home and abroad, and having the work of canvassing done by an intelligent man speaking the Italian language. The question about price would be overcome as soon as the goods became known and appreciated, which would surely follow their proper introduction.

Agricultural implements, owing to their peculiar construction not easily imitated, are sold to some extent in Italy at the present time, but such only as can not be made in Europe. The reason why these goods, so highly appreciated by the progressive agriculturist, are not sent here more freely and in larger qnantities is that until very recently no endeavor to develop a trade in this vicinity for them has been made. American plows are acknowledged to be superior to those made in Europe, not only for the better work they accomplish, but for their lightness and durability as well. A number of these plows were sold in the neighborhood of Naples during the past summer, and will no doubt eventually supersede all others in southern Italy, provided the right effort is made to bring them into notice and trials made in the field to demonstrate their superiority. There is a tax imposed by the Italian Government of 90 cents per 100 pounds on agricultural tools generally, but upon plows it is 70 cents per 100 pounds gross weight. This, I am informed, was done to protect a small foundry at Bercelli, where a few Italian plows are made. There are still great numbers of the antiquated wooden plows with a nail at the point used in this section of the Italian peninsula, but, if proper means were employed to sell a cheap but good plow made in the United States, they would soon be relegated to obscurity or broken up for firewood. American plated ware is unknown here, but purchasers could be found for it if proper inducements energetically presented were resorted to to influence the minds of the people and prove to them its superiority and durability, and the same may be said with regard to table cutlery.

A paying market and a large trade could be opened in this consular district and the adjoining one for American canned goods, especially meats and lard. Meat is very expensive in Naples, costing about 20 cents per pound, and in many of the towns in the interior of the country it is impossible to procure it oftener than once or twice a month even at that price. Therefore, if these very desirable products of the United States were intelligently and energetically introduced, a valuable trade in them could in a short time be built up.

Lumber, to some extent, is imported from the United States, but is controlled by one or two Italian merchants, who have agents there who ship it directly to Naples. This trade, also, could be very much increased and made profitable under right conditions. Brooks and Coates cottons are very popular and meet with large and ready sale in this city.

Refined petroleum comes here in large quantities and is universally consumed. It comes in bulk and in tin cans containing 5 to 10 gallons each.

In my opinion there is no reason why the United States should not largely export the products of her mills and her manufactories, as well as those of her mines or wells, cotton, cereals, etc., and compete successfully in the open markets of the world with other countries.

It is an acknowledged fact that certain kinds of goods made within the bounds of the United States have a reputation the world over for their preëminence above those of a similar character made elsewhere.

JOHN STEELE TWELLS,
Consul.

UNITED STATES CONSULATE.
Naples, December 17, 1891.

PALERMO.

REPORT BY CONSUL CARROLL.

Your dispatch of November last reached this consulate early in December, and would have received prompt attention but for the uncertainty of my tenure, as I was then, as now, daily expecting to turn the office over to Mr. Pugh, the return of whose exequatur from the court of appeals is momentarily expected.

In brief, however, I may now say that almost every article of American manufacture could, with proper efforts, find a ready and continuous sale here. The most efficacious mode of procedure with this view would be for manufacturers and dealers in American goods to send representatives here conversant with the language, with samples and price lists, with the power to sell or take orders upon the same basis as English, German, and other countries do, that is, from 3 to 6 months' credit. American manufactures are recognized to be the best in the world. They are said, however, to be too good and costly for this market, but this objection could be obviated by the means above suggested. The agents or representatives of American firms sent here could study the articles and character thereof required and have them manufactured accordingly.

So-called American manufactures are sold here as the production of American firms in Germany, England, etc. This is simply a swindle, as no American firm in any country would turn out such goods. I know of no counterfeiting of labels.

The articles which would find the most ready sale here are watches, clocks, cotton goods, lard, stoves, edge tools, etc., and, indeed, all, or nearly all, the goods enumerated in your question No. 3, many of which have had a market here for some time.

PHILIP CARROLL,
Consul.

UNITED STATES CONSULATE,
Palermo, January 10, 1891.

TURIN.

REPORT BY VICE-CONSUL TOUHAY.

American goods enjoy a high reputation for excellence of manufacture and durability. Such of them as appear for sale in this city (with the exception of petroleum) are almost always purchased through British agencies, and this alone is sufficient to enhance the cost, so that they enter, when genuine, in very small quantities. There are German imitators of American hardware to be seen in almost every store in Turin, but these imitations are of such poor material and workmanship that, passing as they do for our manufacture, they are more apt to throw discredit than not upon our goods. This is notably the case with regard to stoves, sewing machines, and house-furnishing goods.

Prompt sales would probably be obtained for folding chairs, silver-plated ware, toys, matches, gas stoves for cooking and heating, petroleum lamps, small machinery, and notions. Door locks, house-builders' hardware, and gas fixtures would, in my opinion, if offered at reasonable prices, meet with favor, as such articles in use here are of the poorest quality and excessively dear.

This district is overrun twice a year by German and English drummers, who thoroughly canvass the city, and who, I am informed, accomplish quite important sales. The houses represented by these drummers accord liberal terms of credit, ranging from periods of 3 to 6, and sometimes even 12, months. This practice is the rule, and it must be presumed to be profitable to both sellers and buyers, as it has been in successful force now for several years.

It is of little or no use for our manufacturers to send either advertisements or circulars. In the first place, they are almost always in English, and in the next, even if they were published in the language of the country, people here would take very little stock in them. The Piedmontese have the vaguest ideas of American geography, and Buenos Ayres or Boston has about the same local signification to them. A mere printed announcement that goods of admirable quality and at low prices are procurable from the United States has no more effect on their intelligence than if the same were said of the moon. The Germans are especially well aware of this, and, as they want to sell their goods, they send agents all over the country well supplied with samples, and on the showing of said samples they have almost monopolized the market for their manufactures.

This city has a population of over 300,000 and is the great distributing point for all Piedmont. There is considerable wealth in the district, and I am convinced that, were one or two American agencies established here with a fair show of samples of American goods, a most lucrative trade would soon grow into existence.

In conclusion, I may add that our cotton textiles, prints, and cloths, from their excellent quality and freedom from dressing, would be sure to find especial favor.

ST. L. A. TOUHAY,
Vice-Consul.

UNITED STATES CONSULATE,
Turin, January 27, 1891.

VENICE.

REPORT BY CONSUL JOHNSON.

Owing to the comparatively few attempts that have been made in Venice to introduce American merchandise, resulting from the limited demand for goods of the class heretofore exported from the United States, it is difficult to find reliable data upon which to base opinions as to the advantages of attempting their introduction.

From rather a general survey of the question it would seem that the only element considered by the purchasers of this section of Italy was the price of the article for sale, utterly regardless of its quality, so that, notwithstanding the superior reputation that American wares hold in all markets of the world, in this they could without difficulty be driven out by cheap and inferior imitations.

Venice is not a direct importer of any American articles and, with the exception of small cargoes of petroleum now and then, gets what articles of American production it may find advisable to have from other Italian markets.

Although I am confident that whatever product of American manufacture could be introduced would be counterfeited and imitated, I only know of one instance of the fact, and that in the case of American clocks, the counterfeiters being German manufacturers.

The best means for introducing and selling American goods advantageously would be, in my opinion, to have established in the most important commercial cities of Italy large depots or bazaars for the sale of importations exclusively American, where, as a matter of course, sales would be solicited at the smallest possible profit. Depending upon and receiving goods from the main house, branch bazaars should be established in the smaller and less important Italian towns. This method, in my judgement, seems to be the only practicable one for regularly introducing on a fair basis American wares into this country, more especially since just now the system of bazaars with fixed prices seems to be particularly popular with the Italians.

The main reasons for the failure to make larger sales of American goods are, first, prices and, secondly, the lack of proper means adopted for placing on the market.

There also seems, on the part of American manufacturers, an unwillingness to accord a fair amount of credit to those who might introduce their goods in this country and to exact conditions which are not demanded generally by the commercial usages of this nation.

As an instance of this, I may mention the case of the manufacture of a certain typewriter which has been sold extensively in the United States and which could, without doubt, be sold advantageously in this part of the world. The firm referred to found a good business man in this district and by letter agreed to give him their agency for Italy. The agent incurred considerable expense and consumed a large amount of valuable time, feeling confident of the successful sale of the goods, and upon sending an order for a certain quantity of the goods to have on hand (as naturally to sell to advantage the goods must be on hand ready to deliver on receipt of or before payment) received the reply that in case of orders from an agent abroad no order was filled unless accompanied by cash. I may say here that the amount of this order was not more than $300. Such conditions are altogether contrary to the methods of doing business in this district, and I am certain would in no case be accepted by agents here, as people here are not in the habit of paying the cost of their purchases 1½ months before delivery.

If the intentions of our merchants and manufacturers can be judged by the methods of those who have come under my personal observation, it seems quite evident that their desire to introduce their goods in this country is not very ardent, in which case it would appear that consular coöperation in the matter is vain and delusive, as, with all the desire possible on the part of the consuls, if our merchants are so decidedly opposed to offering any advantages or taking any risks, little can be done to assist matters.

H. ABERT JOHNSON,
Consul.

UNITED STATES CONSULATE,
Venice, February 11, 1891.

COMMERCE OF BOMBAY.

REPORT BY CONSUL BALLANTINE.

GENERAL EXPORTS.

Among commodities of native production there was an increase of 244¼ lacs rupees* in the value of shipments of raw cotton, bringing it up to 1,455¾ lacs rupees, or two-fifths of the whole export trade in native produce. The increase was in great measure due to the excellence of the crop. Complaints continued as to the adulteration of this material. The exports of cotton twist and yarn, seeds, and raw wool also showed marked improvement. The first-named commodity was largely in demand in Japan and the China ports. The increased exports of seeds were due to the failure of the rape seed crop in Germany. The improved trade in raw wool was the result of a good demand in the United Kingdom. The exports of grain and pulse, cotton piece goods, drugs, medicines, and narcotics, and gums and resins showed a falling off, which, in the case of the first-named commodity, amounted to 216⅝ lacs rupees. The decrease in exports of grain and pulse was due to smaller shipments of wheat, a consequence of good wheat crops in Europe. The China treaty ports took cotton twist and yarn in preference to cotton piece goods, for which there had previously been a growing demand in those ports. Among articles of foreign merchandise the largest export trade continued to be in foreign piece goods. The countries with which the export trade was largest were the United Kingdom, China, France, Belgium, Italy, and Austria, in the order given.

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*1 lac rupee = 100,000 rupees; 1 rupee = 40.4 cents.

Cotton.—The extent of this trade depends upon the size of the crop. The outturn for the year 1889 was good, and this led to large exports in April and May, which are generally the two principal months for cotton shipments. The crops of 1890 were also large, and a good business was done up to March 31 last. Complaints are rife regarding the constant increase in adulteration, which threatens to ruin the quality of the finer descriptions of this staple product. The United Kingdom, Belgium, France, Germany, and Italy took more cotton by 46,765, 2,494, 14,809, 75,985, and 49,226 bales, respectively, while the exports to Austria fell off by 7,230 bales. The following table shows the number of bales exported to principal countries from 1887–'88 to 1889–'90:

Countries.	1887–'88.	1888–'89.	1889–'90.
	Bales.	*Bales.*	*Bales.*
United Kingdom	380,510	338,666	385,431
Belgium	169,892	227,667	230,161
France	114,530	139,011	153,820
Germany	10,710	28,518	104,503
Italy	171,724	190,067	239,293
Austria	182,960	205,822	198,592

Grain and pulse.—Wheat is the principal item coming under this head. The exports of it show a value of 23,126,654 rupees, against 47,649,988 rupees in the previous year, a decrease of 24,523,334 rupees. This large decline is attributed to the abundant crops in the United Kingdom and other countries in Europe. The largest fall appears in exports to the United Kingdom, which show a smaller value by 9,748,125 rupees, while France, Italy, and Belgium received less by 7,289,003 rupees, 3,016,744 rupees, and 2,232,338 rupees, respectively.

Table showing the wheat exports.

Countries.	1887–'88.	1888–'89.	1889–'90.
	Cwts.	*Cwts.*	*Cwts.*
United Kingdom	2,020,511	4,831,166	2,821,283
France	2,272,680	2,735,901	1,001,063
Italy	2,778,372	1,118,852	403,246
Belgium	488,193	914,232	386,337

Seeds.—The improvement is due to increased exports of rape seed having been made to meet the demand in Europe consequent on the failure of the German crop.

There was a decline in linseed of 4,049,745 rupees, which was entirely owing to the shortness of the crop. The high prices ruling during several months of the year probably brought out all the supplies available for export.

The increase in exports of rape seed amounted in value to 2,580,759 rupees. The crop does not appear to have been abnormal, but the higher prices offered in the European markets, on account of the failure of crops above referred to, led to a good export business in Bombay.

Gingelly.—Exports of gingelly show an improvement in value of 1,536,450 rupees, which is attributed to a good crop. France took over half of the total shipments and more than in the previous year by 501,884 rupees; Italy also received more by 939,460 rupees.

Wool (*raw*).—This trade expanded considerably during the past 12 months, and shipments increased in value by 1,148,378 rupees. A good demand in the United Kingdom and the higher prices offered seem to have led to the improvement in the trade. Nearly the whole of the exports were to the United Kingdom.

The following table shows the description and value of the principal articles exported to foreign countries in 1889-'90:

Articles.	Value.
Indian produce.	*Rupees.*
Coffee	1,478,231
Coir manufactures	521,127
Cotton:	
Raw	145,272,791
Twist and yarn	53,731,094
Piece goods	5,630,385
Drugs, medicines, and narcotics, including opium and tobacco	38,135,833
Dyeing and tanning materials, including cutch and gambier and lac dye	4,063,608
Grain and pulse	30,820,926
Gums and resins, excluding cutch and gambier	1,100,559
Hemp, raw	466,650
Hides and skins	5,132,983
Horns	1,097,609
Jewelry, etc	197,277
Jute manufactures (gunny bags)	431,024
Manures	949,415
Oils	333,752
Oil cake	214,519
Provisions	3,783,342
Seeds	48,600,139
Silk manufactures (piece goods, including mixed goods)	374,486
Spices	1,318,211
Tea	789,915
Wood, ornamental (sandal)	436,397
Wool:	
Raw	8,148,966
Manufactures (shawls)	284,255
Indian produce—Continued.	*Rupees.*
Other articles	5,015,255
Total Indian produce	358,628,749
Foreign merchandise.	
Coffee	96,468
Cotton:	
Twist and yarn	834,456
Piece goods	16,253,292
Fruits and vegetables (cocoanut kernel)	146,861
Gums and resins, excluding cutch and gambier	731,404
Ivory, manufactured	1,255,426
Jewelry	193,057
Metals:	
Copper, wrought	591,132
Iron, old (for remanufacture)	485,834
Tin, unwrought	167,567
Oil (kerosene)	66,431
Provisions	1,230,799
Silk:	
Raw	332,871
Manufactures	551,971
Spices (cloves)	978,759
Sugar, refined	2,637,602
Tea	1,677,945
Wool:	
Raw	2,407,932
Manufactures	465,480
Other articles	4,244,972
Total foreign merchandise	35,440,239

IMPORTS.

The import trade in cotton piece goods amounted in value to 803½ lacs rupees and exceeded the import trade in any other commodity, though its value was less by 26¾ lacs rupees than in the previous year. The increased imports of machinery and mill gear were due to the extension of mills in Bombay. The imports of copper increased, owing to the fall in price consequent on the collapse of the Paris syndicate. The increase in imports of sugar was due to the stocks imported in the previous year having run short. A good crop in Persia accounted for the larger imports of raw cotton, as did, in a great measure, a large production in China for more extensive imports of raw silk. Besides cotton piece goods, there was a falling off in the imports of coal, iron, railway stock, and rolling plant. The reduced imports of coal were chiefly due to a large stock having accumulated in this country. The imports of iron fell off, owing to a rise in the price of the commodity. The fact that less railway construction was going on accounted for the decrease in the imports of railway stock. The countries with which the import trade was largest were the United Kingdom and China, and more than two-thirds of the whole import trade was with the former of these.

Kerosene.—Kerosene constitutes nearly the whole of this trade, the quantity imported being 13,704,072 gallons, against 11,930,739 gallons in the previous year. The cheapness of this oil is the cause of the almost yearly increase in the demand, and it is rapidly replacing all illuminants produced locally. Below is a table giving receipts of kerosene from Batoum and the United States during the past few years:

Years.	Batoum.	United States.
	Gallons.	*Gallons.*
1886-'87	1,481,232	5,871,586
1887-'88	2,193,877	2,315,287
1888-'89	9,717,773	2,212,212
1889-'90	10,742,344	2,961,728

Provisions.—There was an improvement of 506,986 rupees, due, in a large measure, to increased consignments of dates from Turkey in Asia and Maskat. Fish maws and shark fins were also imported in larger quantities from Maskat, as well as dried fruits from Persia.

Raw cotton.—Imports of raw cotton are valued at 2,668,868 rupees, against 1,505,029 rupees in the previous year. Persia supplies nearly the whole of this product, and the increase visible is attributed to large crops.

Spirits.—The receipts of whisky, which fell off considerably in 1888-'89, showed an increase of 14,302 gallons. The imports of brandy diminished by 3,915 gallons, while rum and gin both improved, the former by 1,575 gallons and the latter by 857 gallons. Whisky is imported almost entirely from the United Kingdom, brandy chiefly from France, rum from Mauritius and the United Kingdom, and gin from the United Kingdom, Holland, and Belgium.

H. BALLANTINE,
Consul.

UNITED STATES CONSULATE,
Bombay, January 31, 1891.

BARCELONA IN 1890.

REPORT BY CONSUL BOWEN.

The year 1890 was a conservative, in contradistinction to a speculative, year in the province of Barcelona. As early as the month of January the opinion obtained among employers that strikes of a serious nature would occur on or about the 1st of May, and by that opinion they were largely governed in determining what obligations they would assume. Nor was their prudence fatuous; the strikes were, indeed, serious, for they did not culminate until July 23 and were not settled until August 2, and in the meantime they were maintained in no fewer than nineteen different manufacturing towns.

But even more potent than the strikes were in affecting trade was the presence of the cholera along this coast of Spain. From the middle of May until the middle of November it not only caused many deaths, but it prevented buyers and travelers, and also natives of other parts of Spain, from visiting the infected districts. Hardly had the cholera disappeared when the financial troubles in South America and in London occurred and produced a disquieting effect on the capitalists and banks here that lasted until nearly the end of the year.

The following table shows the exports declared at this consulate for the United States during the year 1890:

Articles.	Quarter ended—				Total.
	March 31.	June 30.	September 30.	December 31.	
Anisette	$66.00				$66.00
Antiquities	200.00				200.00
Books	234.00				234.00
Cards	213.00	$839.80	$102.60	$717.55	1,872.95
Ceramics		93.60			93.60
Cigarette paper	758.00	1,945.00	556.40		3,260.40
Cork	77,261.00	58,165.00	4,225.00		139,651.00
Cork mats		270.60	15.68		286.28
Glycerine		9,940.40	19,796.80	40,058.00	67,795.20
Garlic			1,136.18	40.36	1,176.54
Hand organs	220.00				220.00
Jackasses		17,500.00	11,176.00		28,676.00
Mineral water	3,995.00	2,138.00	2,058.00	1,705.07	9,896.07
Mosaics		90.00			90.00
Oil painting		185.00			185.00
Olive oil		42.06			42.06
Pasteboard mats			390.00		300.00
Saffron			497.32		497.32
Skins		396.00			396.00
Tartar		4,330.24			4,330.24
Wine	2,527.50	4,618.40	5,404.71	1,448.80	13,999.41
Wool (dirty black)			1,760.00		1,760.00
Sundries	79.00				79.00
Total	85,553.50	100,555.10	47,028.69	43,969.78	277,107.07

According to the customs returns, the trade of Barcelona with the United States in 1890 was as follows:

Articles.		Imports.		Exports.	
		Quantity.	Value.	Quantity.	Value.
Anisette	litres			234	$45
Bacon and lard	kilogrammes	27,261	$6,052		
Blacking, inks, colors	do	2,677	655		
Caoutchouc	do	1,964	2,085		
Cartridges	do	665	161		
Cerosin	do	9,672	2,522		
Chemical products	do	5,529	1,061		
Cigarette paper	do			7,036	4,074
Cotton	do	35,069,271	9,500,035		
Cotton-seed oil	do	19,662	2,274		
Drugs	do	1,779	429		
Firearms (revolvers, carbines, etc.)	do	76	337		
Garlic	do			6,570	913
Indigo	do	5,124	11,442		
Lubricating oil	do	37,792	2,899		
Mineral coal	tons	875	4,222		
Motors	kilogrammes	101,204	23,484		
Pitch-pine wood	cubic metres	13,931	144,430		
Perfumery	kilogrammes	908	1,402		
Petroleum	do	3,698,562	170,363		
Pills and other pharmaceutical products	do	5,926	6,511		
Preserved fish	do	2,283	2,203		
Paper and prints	do	11,516	7,446	393	227
Resin	do	2,448,472	47,255		
Staves	number	1,295,230	238,831		
Tallow	kilogrammes	570,433	82,570		
Toys	do	790	915		
Tripe (guts)	do	47,058	18,164		
Tramway cars	do	209,028	43,570		
Varnish			341		
Wine					1,781
Various			1,802		777
Playing cards					1,911
Total			10,323,461		8,728

Almost all the articles of importation and exportation between Spain and the United States pass through other countries, and are consequently enumerated among the articles of importation and exportation between Spain and said other countries, and not between Spain and the United States. According to the foregoing figures, obtained from the custom-house, the direct and known exportations to the United States from Barcelona amounted to but $8,728 during the year 1890, while, as a matter of fact, the amount was $277,107.07, as is shown in the foregoing return of declared exports.

HERBERT W. BOWEN,
Consul.

UNITED STATES CONSULATE,
Barcelona, March 6, 1891.

MILK FROM TUBERCULOUS COWS.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

Experiments have again been resumed in this country towards elucidating the still open question whether milk from tubercular diseased cows, even in such cases where the udder was not affected with tuberculosis, can be the means of communicating infection. In these experiments the investigation was made in all with the milk from twenty-one diseased cows, and with which forty guinea pigs were inoculated. It had been intended that two guinea pigs should be inoculated from each sample; but in two cases, owing to the number of these animals having fallen short, only one guinea pig could be employed, from 2 to 3 centimetres of milk being used on each occasion. The milk samples were taken by the veterinary surgeon of the cattle market, the cows being milked by him and the milk caught up into small bottles. The veterinarian only selected such cows as, on examination during life, could be classed by him as suffering in a high degree from tuberculosis; and in every case the udder and chest intestines of the animals were afterwards sent in for examination, so as to obtain full assurance of the correctness of the diagnosis, as well as to ascertain the extent of development of the disease. The inoculated guinea pigs were kept in isolated cages in such manner that only the two which had received milk from the same cow came into contact the one with the other. Three of the guinea pigs were killed by rats, fortunately, however, at such distance of time (24 or 25 days) after inoculation that the inoculated tuberculosis must have shown itself had it been present. Two others died of casual (not tuberculous lung) disease after the lapse of 1½ and 2 months, leaving no sign whatever of tuberculosis.

The results obtained from these inoculations have been that milk from seventeen of the examined cows had no influence in producing tuberculosis in the guinea pigs, whilst the milk from four of the cows showed itself to be communicative of infection; but in three of these cases, on examination of the udder most minutely, this could scarcely be considered in a perfectly sound state. In the one case two small tumors were found of about the size of a pea; in the two others, of the size of a hazelnut; but in all the cases, with a slight hardening of the tissues in a somewhat extended circuit. When the above-mentioned tumors were cut over, they presented the exact appearance of a fresh tubercular udder inflammation, that is to say, the gland lobes were swollen, firm, and of grayish color, slightly translucent, and with yellow streaks corresponding with the lacteal passages. In dried preparations of tissue from the tumors, as well as from the infiltrated regions, tubercle bacilli could be demonstrated, and sections showed on both sides the presence of typical tuberculous tissue with giant cells containing bacilli. Thus there could be no doubt but that in all three cases a commencement of tuberculosis had to be contended with. The slighter the development of the tubercular attacks in the udder, so much the fewer will be the number of bacilli thrown off from the milk. In full agreement with this it was found that, of the two inoculated guinea pigs, only one was attacked in the case where but two small tumors of a pea size was found in the udder. The other guinea pig was killed 4 weeks after the inoculation and was found to be perfectly sound. In the last of the four cases, where the milk was found communicative of infection, no discernible tubercular attack was to be detected in the udder. This case, however, differed in some degree from the others. The cow in question died of tuberculosis of chronic character and in a very advanced stage, several of the organs having been attacked (the lungs, pleura, mesenteric glands, liver, and intestines), whilst the other cows whose milk had been examined had all been slaughtered. With these the attack had not reached the extreme stage, although in many of them it was found to be far advanced.

Whilst this case would thus seem to prove that the tubercle bacilli can pass over to the milk without the previous existence of any tubercle tissue in the udder, it is at the same time observed that in this case there is all reason for regarding it as one of exceptional character. From the detailed report on these researches it may perhaps be gathered that the matter in question stands somewhat in the following position: If it really be the case that the milk of tuberculous cows is of such great danger as the medium of communicating infection, it might certainly be expected, looking at the great spread of tuberculosis among cattle, that the disease would, at the same time, be conveyed to human beings much more frequently than it seems, in fact, really to occur with the raw milk and (though perhaps in a somewhat less degree) with the dairy produce, especially of butter and fresh cheese. The generally entertained opinion that milk from tuberculous cows, as a rule, only under certain conditions, was really of such dangerous characters, would appear to be much more in accordance with the results obtained. To prevent the conveyance of infection to the human being through the medium of tuberculous cows' milk, it should be the main consideration to watch for the earliest appearance of swelling or tumor of a tuberculous nature in the cow. Such recognition, as a rule, will not be of much difficulty, and at any rate will lead to good grounds of suspicion, such as a firm, painless, and, as a rule, speedily spreading glandular swelling, with the secretion in the first weeks retaining its natural appearance, but later on becoming thinner and more watery, but seldom of a pus nature. The question of danger of infection through the use of such milk is perhaps sufficiently summed up in the following words of the report on these researches, namely, that milk obtained from a tuberculous cow with an apparently sound udder, as a rule, will not be found dangerous; but, at the same time, as in no individual case can it be said with certainty that one may not be dealing with one of the depicted exceptions from the general rule, it would be advisable to regard such milk with suspicion in respect to its infecting powers

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, March 4, 1891.

CONSULAR REPORTS

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No. 129.—JUNE, 1891.

AGRICULTURAL WAGES IN GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I transmit herewith a table showing the wages paid to agricultural laborers throughout Germany.

This table was prepared with great care from reliable data, showing the usual local rates of the daily wages of agricultural laborers at all the principal points within the German Empire.

When it is taken into consideration that the laborers "find themselves" from such wages, it seems reasonable to conclude that such food as beef and pork, at their present prices, is beyond their reach.

Table showing the daily wages of agricultural laborers in Germany.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA.				
Governmental district of Königsberg.				
Townships:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Allenstein (except the following towns)	28.5	14.3	9.52	5.76
Allenstein	33.3	19.04	23.8	11.9
Wartenburg	28.5	21.42	21.42	16.66
Braunsberg (except the following towns)	33.3	20.23	13.09	11.9
Braunsberg	29.6	16.66	9.52	7.14
Frauenburg	31	19.04	11.9	9.52
Mehlsack	23.8	11.9	11.9	7.14
Wormditt	23.8	17.85	20.23	11.9
Preussisch-Eilau (except the following towns)	23.8	14.28	11.9	7.14
Creuzberg	23.8	14.28	14.28	9.52
Preussisch-Eilau	23.8	14.28	14.28	9.52
Landsberg	23.8	11.9	11.9	9.52
Fischhausen (except the following towns)	28.5	16.66	11.9	9.52
Friedland	28.5	16.66	11.9	9.52
Schippenbeil	28.5	16.66	11.9	9.52
Gerdauen (including the towns of Gerdauen and Vordernberg)	27.07	14.28	11.9	9.52

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Königsberg—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Heiligenbeil (except the following towns)	28.5	19.04	19.04	9.52
Heiligenbeil	28.5	19.04	14.28	9.52
Zinten	28.5	23.8	14.28	11.9
Heilsberg (except the following towns)	23.8	16.66	9.52	7.14
Gutstadt	28.5	16.66	14.28	11.9
Heilsberg	23.8	16.66	11.9	7.14
Preussisch-Holland (except the following towns)	28.5	16.66	11.9	11.9
Preussisch-Holland	29.6	16.66	11.9	11.9
Mühlhausen	28.5	16.66	11.9	11.9
Königsberg	29.6	17.67	9.52	9.52
Do	46.46	16.66	29.6	9.52
Labiau (except the town of Labiau)	28.5	16.66	14.28	14.28
Town of Labiau	28.5	19.04	16.66	11.9
Memel (except the town of Memel)	29.6	17.67	16.66	11.9
Town of Memel	35.7	23.8	19.04	16.66
Mohrungen (except the following towns)	28.5	16.66	14.28	9.52
Liebstadt	23.5	14.28	11.9	9.52
Mohrungen	28.5	16.66	19.04	9.52
Fischhausen	35.7	23.8	14.28	11.9
Pillau	47.6	23.8	23.8	11.9
Friedland (except the following towns)	28.5	16.66	11.9	9.52
Bartenstein	29.6	19.04	14.28	9.52
Domnau	23.8	14.28	11.9	7.14
Saalfeld	28.5	16.66	14.28	9.52
Neidenburg	23.8	14.28	11.9	7.14
Soldau	28.5	16.66	14.28	7.14
Ortelsburg (except the following towns)	28.5	21.42	19.04	11.9
Ortelsburg	28.5	14.28	11.9	9.52
Passenheim	23.8	11.9	9.52	9.52
Willenberg	23.8	11.9	11.9	9.52
Osterode (except the following towns)	28.5	21.42	16.66	14.28
Gilgenburg	29.6	16.66	14.28	7.14
Hohenstein	28.5	14.28	14.28	7.14
Lübennöhl	23.8	14.28	14.28	7.14
Osterode	30.94	23.8	16.66	11.9
Rastenburg (except the following towns)	28.5	16.66	16.66	11.9
Barten	23.8	14.28	9.52	7.14
Drengfurt	23.8	14.28	11.9	9.52
Rastenburg	28.5	16.66	16.66	9.52
Rössel (except the following towns)	28.5	21.42	16.66	11.9
Bischofsburg	23.8	21.42	11.9	9.52
Bischofsstein	23.8	14.28	11.9	7.14
Seeburg	23.8	16.66	14.28	9.52
Wehlau (except the following towns)	28.5	14.28	14.28	11.9
Altenburg	23.8	14.28	14.28	9.52
Tapiau	23.8	16.66	14.28	11.9
Wehlau	28.5	16.66	19.04	11.9
Governmental district of Gumbinnen.				
Townships:				
Heidekrug and Niederung	28.5	14.28	14.28	7.14
Tilsit (except town of Tilsit), Ragnit, Pilkallen, Stallupöhnen, Gumbinnen, and Insterburg (except town of Insterburg)	23.8	11.9	14.9	4.76
Darkehmen and Goldapp	23.8	11.9	11.9	4.76
Olesho, Liek, Lötzen, Sensburg, Johannesburg, and Angerburg	19.04	9.52	9.52	4.76
Towns of Tilsit and Insterburg	23.8	19.04	11.9	9.52

Table showing the daily wages of agricultural laborers in Germany—**Continued.**

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Dantzic.				
Townships:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Dantzic	42.84	24.4	15.3	12.9
Towns—				
Dirschau	35.7	20.05	19	14.28
Elbing	35.7	23.8	15.3	12.9
Marienburg	35.7	20.05	19	14.23
Neustadt	23.8	19	11.9	11.9
Neuteich	35.7	20.05	19	14.28
Putzig	23.8	19	11.9	11.9
Schöneck	23.8	19	11.9	11.9
Tiegenhof	38.08	20.23	17.85	14.28
Tolkemit	33.3	20.23	17.85	14.28
Prussian Stargard	35.7	20.23	17.85	14.28
Berent (except the town of Berent)	28.5	17.85	11.9	11.9
Town of Berent	23.8	19	11.9	11.9
Carthaus, district of Kahlbude	28.5	17.85	16.66	11.9
Districts:				
Dantzicker Höhe—				
Saspe and Schellmühl	42.84	23.8	17.85	14.28
Other districts	33.3	17.85	17.85	14.28
Dantzicker Niederung—				
Krakau, Henbude, Treyl, Weichselmünde, Gross Klein Piehnendorf, and Bürgerwiesen	42.84	23.8	17.85	14.28
Other districts	33.3	17.85	17.85	14.28
Townships (except the above-mentioned towns):				
Dirschau (except the town of Dirschau)	33.3	17.85	17.85	14.28
Elbing	33.3	20.23	17.85	14.28
Marienburg	33.3	20.23	17.85	14.28
Neustadt	28.5	17.85	11.9	11.9
Putzig	28.5	17.85	11.9	11.9
Prussian Stargard	33.3	17.85	11.9	11.9
Governmental district of Marienwerder.				
Townships:				
Briesen (except the following towns)	26.1	17.85	14.28	11.9
Briesen	23.8	17.85	11.9	9.52
Gollub	33.3	23.8	19.04	17.85
Schönsee	28.5	19.04	14.28	14.28
Kulm (except the town of Kulm)	32.13	21.42	9.52	7.14
Town of Kulm	38.08	14.28	11.9	11.9
Flatow (except the following towns)	26.18	14.28	9.52	9.52
Flatow	29.6	14.28	9.52	9.57
Zempelburg	29.6	14.28	9.52	9.52
Krojanke	30.94	23.8	14.28	11.9
Vandsburg	38.55	20.23	11.9	11.9
Cammin	29.6	23.8	23.8	19.04
Grandenz (except the following towns)	29.6	17.85	14.28	11.9
Grandenz	29.6	17.85	14.28	11.9
Rehden	30.94	21.42	19.04	16.66
Lessen	23.8	17.85	17.85	14.28
Konitz (except the town of Konitz)	30.94	21.42	17.85	14.3
Town of Konitz	33.3	16.66	11.9	11.9
Deutsch-Krone (except the following towns)	23.8	16.66	11.9	7.14
Deutsch-Krone	23.8	16.66	11.9	7.14
Jastrow	23.8	14.28	11.9	7.14
Friedland (Mecklenburg Strelitz)	23.94	27.85	11.9	7.14
Schlappe	23.8	14.28	14.28	9.52

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Marienwerder—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Löbeau (except the following towns)	35.7	11.9	11.9	9.52
Löbeau	19.4	9.52	4.76	4.76
Neumark	23.8	15.47	11.9	9.52
Kauernick	26.1	16.66	21.42	11.9
Marienwerder (except the following towns)	28.5	17.85	11.9	11.9
Marienwerder	35.7	20.23	15.47	11.92
Mewe	35.7	23.8	11.9	9.52
Garnsee	35.7	23.8	17.85	11.9
Rosenberg (except the following towns)	28.5	17.67	14.28	14.28
Rosenberg	23.5	14.28	11.9	9.52
Deutsch Eilau	29.56	14.28	11.9	9.52
Riesenburg	23.8	11.9	7.14	5.95
Bischofswerder	35.7	19.4	11.9	7.14
Freistadt	24.03	21.42	17.67	17.67
Schlochau (except the following towns)	24.03	19.04	15.47	14.28
Schlochau	35.7	23.8	15.47	14.28
Hammerstein	24.03	14.28	16.66	11.9
Baldenburg	28.5	17.67	15.47	14.28
Prussian Friedland	29.56	17.67	19.04	11.9
Landeck	23.8	16.66	14.28	14.28
Schwetz (except the following towns)	31	19.04	14.28	13.1
Schwetz	29.56	21.42	9.04	14.28
Neuenburg	19.04	19.04	9.52	9.52
Strasburg (except the following towns)	33.3	23.8	19.04	17.67
Strasburg	33.3	23.8	19.04	17.67
Gorzno	33.3	23.8	19.04	17.67
Lautenburg	30.75	23.8	19.04	17.67
Stuhm (except the following towns)	29.56	19.04	14.28	11.9
Stuhm	35.7	23.8	23.8	17.67
Christburg	21.42	19.04	14.28	11.9
Thorn (except the following towns)	24.03	21.42	16.66	13.1
Thorn	28.5	19.04	14.28	14.28
Kulm See	28.5	19.04	23.8	14.28
Tuchel	28.5	21.42	16.66	16.66
Governmental district of Potsdam.				
Townships:				
Angermünde—				
Districts	33.3	17.67	14.28	11.9
Towns:				
Angermünde	41.47	19.7	24.9	19.67
Greifenberg	29.56	17.67	17.67	11.9
Joachimsthal	29.56	16.66	23.8	11.9
Oderberg	35.7	19.04	21.42	19.04
Schwedt	35.7	23.8	14.28	11.9
Brandenburg	[illegible]	....	23.8	....
Beeskow and Storkow	29.56	21.42	19.04	16.66
Charlottenburg	47.6	23.8	17.07	11.9
Jüterbogk and Luckenwalde:				
Town of Luckenwalde	35.7	23.8	11.9	17.67
Other part	28.5	19.04	15.6	14.28
Niederbarnim:				
Lichtenberg and Stralau	52.36	28.5	23.8	17.67
Districts of Friedrichsfelde, Weissensee, Ober Schöneweide, Pankow, Franz Buchholz, Dalldorf, and Tegel. [illegible]	47.6	23.8	21.42	16.66
Community of Neu Holland	47.6	41.47	23.8	23.8

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Potsdam—Continued.				
Townships—Continued.				
Niederbarnim—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Town of Bernau	41.47	23.8	23.8	11.9
Town of Oranienburg	41.47	23.8	23.8	11.9
Communities of Blumberg and Friedrichshagen	41.47	19.04	23.8	11.9
Communities of Ruhleben, Spandau, and Forst	56.2	35.7	30.48	23.8
Communities of Birkenwerder, Borgsdorf, Freienhorgen, and Woltersdorf	33.3	16.66	14.28	91.52
District of Malchow	35.7	19.04	16.66	11.9
Other parts	35.7	19.04	16.66	11.9
Oberbarnim (except the town of Eberswalde)	35.7	21.42	16.66	14.28
Town of Eberswalde	35.7	23.8	17.67	11.9
Osthavelland	35.7	17.67	17.67	11.9
Ostprignitz	35.7	23.8	14.28	11.9
Prenzlau	33.3	19.04	14.28	9.52
Potsdam	47.6	23,8	11.9	11.9
Ruppin—				
Town of Ruppin	37.96	23.8	14.28	14.28
Other part	31	17.67	9.52	9.52
Spandau	59.5	37.7	19.04	19.04
Teltow—				
Communities of Rixdorf, Britz, Friedenau, Steglitz, Gross Lichterfelde, Wilmersdorf, Schmargendorf, and Dahlem	56.2	35.7	31	23.8
Town of Teltow and communities of Schönow, Stahnsdorf, Ruhlsdorf, Klein Machnow, Düppel, Zehlendorf, Klein Beeren, Gross Beeren, and Diedersdorf	47.6	23.8	19.04	14.28
Tempelhof and Hasenheide	56.2	35.7	31	23.8
Communities of Laukwitz, Marienfelde, Buckow, and Gross Ziethen and farms of Osdorf and Lichtenrade	37.96	23.8	19.04	14.28
Communities of Nanawe and Neuendorf	47.6	35.7	23.8	19.04
Municipalities and country houses of Klein Glienicke, Drewitz, Stolpe, Schenkendorf, Nudow, Potsdamer, and Forst	35.7	23.8	16.66	14.28
Town of Köpenick and municipalities of Treptow, N. Schönweide, Johannisthal, Adlershof, Grünau, and Kietz	59.5	35.7	31	23.8
Alt-Glienicke, Neu-Glienicke, Südersdorf, Gadsdorf, Wilmersdorf, Thyrow, Siethen, Wietstock, Löwenbruch, and Chestow	35.7	19.04	14.28	11.9
Municipalities of Clausdorf and Sporenberg	35.7	23.8	14.28	14.28
Other parts	35.7	23.8	19.04	14.28
Templin:				
Towns	33.3	19.04	19.04	14.28
Municipalities and counties	31	16.66	16.66	14.28
Westhavelland, town of Rathenow	38	23.8	21.42	14.28
Wittenberge:				
Town of Wittenberge	47.6	23.8	23.8	23.8
Other part	35.7	23.8	11.9	11.9
Lauch-Belzig	29.6	19.04	16.66	13
Berlin	59.5	35.7	31	23.8
Governmental district of Frankfort-on-the-Oder.				
Townships:				
Arnswalde	23.8	16.66	9.52	9.52
Kalau	28.5	19.04	14.28	14.28
Cottbus (land district)	28.5	19.04	14.28	14.28
Crossen	28.5	19.04	14.28	14.28
Friedsberg	28.5	19.04	14.28	14.28
Guben (land district)	23.5	16.66	11.9	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Frankfort-on-the-Oder—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Königsberg (except the town of Küstrin)	35.7	23.8	14.28	14.28
Landsberg (except the town of Landsberg), Lebus, Luckau, Lübben, Soldin, and Sorau (except the town of Forst)	28.5	19.04	14.28	14.28
Spremberg (except the town of Spremberg)	23.8	16.66	14.28	11.9
East Sternberg	23.8	14.28	11.9	11.9
Züllichau and Schwiebus (except the towns of Züllichau, Liebenau, and Schwiebus)	23.8	14.28	9.52	9.52
Frankfort-on-the-Oder	42.8	26.1	23.8	16.66
Guben	35.7	23.8	16.66	16.66
Cottbus	35.7	23.8	14.28	14.28
Towns:				
Forst	42.8	29.6	16.66	16.66
Küstrin	41.7	23.8	19.04	14.28
Landsberg-on-the-Warta	33.3	21.42	14.28	14.28
Spremberg	28.5	19.04	14.28	14.28
Züllichau, Liebenau, and Schwiebus	28.5	19.04	14.28	14.28
Governmental district of Stettin.				
Township of Stettin	47.6	23.8	23.8	14.28
Town of Stargard	35.7	....	....	....
Other parts	28.5	16.66	11.9	9.52
Governmental district of Cöslin.				
Townships (except the below-mentioned towns):				
Belgard	29.69	19.04	14.28	14.28
Bütow	22.61	11.9	7.14	7.14
Bublitz	23.8	11.9	7.14	7.14
Cöslin	29.69	19.04	14.28	14.28
Colberg	29.69	19.04	14.28	14.28
Dramburg	28.5	19.04	14.28	14.28
Neustettin	26.18	17.75	11.9	11.9
Lauenburg	29.69	19.04	14.28	14.28
Schivelbein, Schlawe, and Stolp	29.69	19.04	14.28	14.28
Rummelsburg—				
Municipalities of Varzin, Wendisch-Zarnow, Seelitz, Battin, and Wusseken	21.65	17.75	17.75	16.18
Other part	23.8	11.9	11.9	11.9
Towns:				
Bärwalde	27.37	16.66	11.9	9.52
Belgrad	33.3	19.04	19.04	16.18
Bublitz	27.37	16.66	9.52	7.14
Bütow	23.8	14.28	9.52	7.14
Dramburg	29.69	17.75	14.28	11.9
Falkenburg	30.94	19.04	16.66	14.28
Calies	30.94	19.04	16.66	14.28
Colberg	35.7	19.04	19.04	16.18
Körlin	29.69	17.75	14.28	11.9
Cöslin	33.3	19.04	19.04	15.47
Lauenburg	30.94	19.04	16.66	14.28
Neustettin	29.69	17.75	14.28	11.9
Pollnow	23.8	14.28	9.52	7.14
Polzin	27.37	16.66	11.9	9.52
Ratzebuhr	27.37	16.66	11.9	9.52
Rügenwalde	30.94	19.04	16.66	14.28
Rummelsburg	29.69	17.75	14.28	11.9
Schlawe	29.69	17.75	11.9	9.52

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Cöslin—Continued.				
Towns—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Schivelbein	29.69	17.75	14.28	11.9
Stolp	37.8	26.18	23.8	15.47
Tempelburg	29.69	17.75	14.28	11.9
Zanow	30.94	19.04	16.66	14.28
Governmental district of Stralsund.				
Towns of Stralsund and Greifswald	35.7	23.8	14.28	9.52
Other part	35.7	21.42	11.9	9.52
Governmental district of Posen.				
Townships:				
Adelnau	23.8	11.9	11.9	9.52
Birnbaum	27.37	15.47	11.9	9.52
Bamst	22.61	14.28	10.54	7.14
Fraustadt	22.61	14.28	11.9	9.52
Gostin	23.8	14.28	11.9	9.52
Graetz	29.69	20.23	15.47	9.52
Yarotschin	24.9	15.47	14.28	9.52
Kempen	28.5	19.04	14.28	9.52
Koschmin	23.8	15.47	11.9	9.52
Kosten	24.9	14.28	10.54	9.52
Krotoszyn	23.8	15.47	11.9	9.52
Lissa	23.8	14.28	11.9	9.52
Town of Lissa	35.7	19.04	15.47	13.09
Meseritz	27.37	17.85	13.09	10.71
Neutomischel	30.94	21.42	16.66	10.71
Obornick	23.8	16.66	11.9	9.52
Ostrowo	24.9	15.47	14.28	10.71
Pleschen	24.9	15.47	14.28	10.71
East Posen	28.5	14.28	10.71	8.33
West Posen	23.5	13.09	10.71	8.33
Town of Posen	38.08	23.8	17.85	11.9
Rawitsch	27.37	16.66	11.9	9.52
Town of Rawitsch	35.7	19.04	19.04	14.28
Samter	26.8	15.47	9.52	7.14
Schildburg	23.8	16.66	11.9	9.52
Schmiegel	24.9	14.28	10.71	9.52
Schrimm	23.8	11.9	11.9	7.14
Schroda	28.5	16.66	9.52	7.14
Schwerin-on-the-Warta	27.37	15.47	11.9	9.52
Wreschen	29.75	17.85	14.28	9.52
Governmental district of Bromberg.				
Towns of Bromberg, Inowrazlaw, Schneidemühl, Nakel, Okollo, Schleusenau, Prinzenthal, Schröttersdorf, Gross and Klein Bartelsee, Adlershorst, Schöndorf, Yügerhof, Bleichfelde, Wülhelmsthal, Jagdschütz, Oplawitz, and Kleinau	35.7	23.8	23.8	17.85
Other part	28.5	19.04	14.28	9.52
Governmental district of Breslau.				
Townships:				
Breslau	38	23.8	19.04	14.28
Land district of Breslau	21.42	15.47	11.9	11.9
Brieg	23.8	14.28	14.28	9.52
Frankenstein	21.42	15.47	11.9	9.52
Glatz	23.8	17.85	14.28	11.9
Gross-Wartenberg	19.04	14.28	9.52	7.14

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Breslau—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Guhrau	23.8	11.9	11.9	7.14
Habelschwert	23.8	14.28	14.28	9.52
Militsch	29.04	11.9	11.9	7.14
Münsterberg	23.8	16.66	14.28	11.9
Namslau	23.8	14.28	14.28	9.52
Neumarkt	23.8	11.9	11.42	9.52
Neurode	23.8	14.28	9.52	9.52
Nimptsch	21.42	14.28	11.9	11.9
Oels	21.42	14.28	11.9	11.9
Ohlau	26.8	21.42	11.9	11.9
Reichenbach	26.8	21.42	16.66	14.28
Towns of Schweidnitz and Freiburg	30.94	20.23	16.66	11.9
Other part	23.8	14.28	11.9	11.9
Striegau—				
Town of Striegau	28.5	19.04	11.9	11.9
Other part	23.8	14.28	11.9	11.9
Strehlen	26.8	20.23	15.37	13
Trebnitz	20.2	11.9	11.42	8.33
Waldenburg	26.8	16.66	14.28	9.52
Wohlau	23.8	11.9	11.9	8.33
Governmental district of Liegnitz.				
Townships:				
Bolkenhain	26.8	16.66	13.09	11.9
Bunzlau	23.8	15.47	13.09	10.71
Freistadt	23.8	14.28	11.9	9.52
Glogau (except the town of Glogau)	26.8	14.28	11.9	9.52
Görlitz (land district)	27.37	16.66	13.09	9.52
Goldberg and Haynau	23.8	14.28	10.71	9.52
Grünberg	23.8	14.28	10.71	11.9
Hüschberg	28.5	19.04	14.28	9.52
Hoyerswerda	23.8	16.66	14.28	10.71
Tauer	23.8	14.38	11.9	9.52
Landshut	28.5	16.66	11.9	9.52
Lauban (except the town of Lauban)	27.37	16.66	10.71	9.52
Liegnitz (land district)	23.8	14.28	11.9	10.71
Löwenberg	23.8	16.66	14.28	11.9
Lüben	23.8	11.9	9.52	8.33
Sagan	23.8	14.28	11.9	9.52
Görlitz	38.08	23.8	19.04	14.28
Liegnitz	35.7	23.8	14.28	14.28
Weisswasser	35.7	20.23	19.04	16.66
Towns:				
Glogau	28.5	19.04	17.85	11.9
Goldberg	38.08	28.5	14.28	11.9
Haynau	30.94	23.8	19.04	16.66
Grünberg	33.3	23.8	19.04	14.28
Lauban	30.94	23.8	14.28	11.9
Muskau	28.5	20.9	16.66	14.28
Sagan	28.5	19.04	16.66	10.71
Sprottau	28.5	17.85	11.9	11.9
Governmental district of Oppeln.				
Townships:				
Beuthen—				
Towns of Beuthen and Königshütte	28.5	19.04	19.04	18.28
Other part	28.5	16.66	16.66	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Oppeln—Continued.				
Townships—Continued.				
Casel—	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Town of Casel	23.8	19.04	14.28	9.52
Other part	21.42	14.28	14.28	9.52
Creuzburg	26.8	16.66	14.28	14.28
Towns of the other part	21.42	11.9	11.9	9.52
Falkenberg	19.04	14.28	14.28	9.52
Gleiwitz—				
Town of Gleiwitz	23.8	19.04	14.28	9.52
Other part	19.04	14.28	14.28	9.52
Gross Strehlitz—				
Town of Gross Strehlitz	23.8	14.28	14.28	11.9
Other part	19.04	14.28	14.28	9.52
Kattowitz—				
Town of Kattowitz	28.5	19.04	19.04	14.28
Other part	28.5	16.66	16.66	11.9
Leobschütz—				
Towns of Leobschütz and Katscher	23.8	19.04	10.28	9.52
Other part	21.42	14.28	14.28	9.52
Lublinitz	19.04	11.9	11.9	7.14
Neisse—				
Towns:				
Neisse	26.8	19.04	19.04	16.6
Patschkau	21.42	14.28	14.28	9.52
Ziegenhals	23.8	19.04	14.28	9.52
Other parts	19.04	14.28	14.28	9.52
Neustadt—				
Towns of Neustadt and Zülz	23.8	19.04	14.28	9.52
Other part	21.42	14.28	14.28	9.52
Oppeln—				
Towns:				
Oppeln	23.8	16.66	14.28	9.52
Krappitz	23.8	14.28	11.9	9.52
Other parts	23.8	14.28	11.9	7.14
Pless	23.8	16.66	11.9	9.52
Ratibor—				
Town of Ratibor	26.8	19.04	14.28	11.9
Other part	21.42	14.28	14.28	9.52
Rosenberg	19.04	11.9	11.9	7.14
Rybnik	19.04	11.9	9.52	9.52
Tarnowitz—				
Towns of Tarnowitz and Georgenberg	28.5	19.04	14.28	14.28
Other part	23.8	14.28	14.28	9.52
Zaborze—				
Towns of Biskupitz, Darotheendorf, Ruda, Alt-Zaborze, Klein-Zaborze, and Zaborze	28.5	19.04	14.28	11.9
Other part	19.04	14.28	14.28	9.52
Governmental district of Magdeburg.				
Aschersleben (except the town of Aschersleben)	38	23.8	22.61	17.85
Jerichow:				
Without Pretzier, Plötzka, and Darmigkow	35.7	17.85	17.85	14.28
With Pretzier, Plötzka, and Darmigkow	47.6	23.8	23.8	16.66
Kalbe-on-the-Saale:				
Löderburg, Borne, Atzendorf, and Forderstedt	47.6	28.5	26.8	21.42
Kickendorf, Biere, Eggersdorf, Alt-Salze, Frohse, and Gnadau	41.65	23.8	23.8	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Magdeburg—Continued.				
Kalbe-on-the-Saale—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Districts of Glöthe, Neugattersleben, Brumby, Barby, and Kalbe	38	23.8	23.8	19.04
Rosenberg, Tuchau, Micheln, Lödderitz, and Surigke	35.7	23.8	21.42	19.04
Gardelegen (except the town of Gardelegen)	35.7	22.61	16.66	11.9
Halberstadt (except the town of Halbetstadt)	35.7	23.8	23.8	17.85
Osterburg (except the town of Osterburg)	35.7	23.8	23.8	16.66
Salzwedel (except the town of Salzwedel)	35.7	23.8	21.42	16.66
Neu-Haldensleben (except the town of Neu-Haldensleben):				
Districts of Waekersleben, Hötensleben, Völpke, Barnsberg, Warsleben, Eilsleben, Warmsdorf, Ummendorf, Sammerschenberg, and Bartensleben	40.4	23.8	23.8	19.04
Other parts of the district	35.7	19.04	19.04	16.66
Oschersleben (except the town of Oschersleben)	38	23.8	23.8	19.04
Stendal:				
Without Vaethen and Tangerhertle	33.3	19.04	16.66	14.28
With Vaethen and Tangerhertle	35.7	23.8	16.66	14.28
Wanzleben (except the town of Wanzleben)	38	23.8	23.8	19.04
Wernigerode (except the town of Wernigerode)	38	23.8	23.8	19.04
Wolmirstedt (except the town of Wolmirstedt):				
Olvenstadt	47.6	23.8	23.8	19.04
Other parts of the district	38	23.8	23.8	19.04
Towns:				
Aken	38	23.8	23.8	19.04
Arendsee	35.7	17.85	14.28	14.28
Arneberg	35.7	23.8	17.85	17.85
Aschersleben	38	26.8	23.8	21.42
Barby	38	23.8	23.8	19.04
Bismark	35.7	23.8	19.04	16.66
Burg	35.7	23.8	19.04	16.66
Kalbe-on-the-Saale	38	23.8	23.8	20.23
Kalbe-on-the-Main	35.7	23.8	21.42	16.66
Clötze	35.7	23.8	21.42	16.66
Kochstedt	35.7	23.8	23.8	23.8
Croppenstädt	38	23.8	23.8	19.04
Dardesheim	35.7	23.8	23.8	17.85
Derenburg	35.7	23.8	23.8	17.85
Egeln	35.7	23.8	23.8	21.42
Gardelegen	35.7	23.8	23.8	16.66
Genthin	35.7	21.42	19.04	14.28
Gommern	47.6	23.8	23.8	16.66
Gröningen	41.65	26.18	28.5	23.8
Hadmersleben	38	23.8	23.8	19.04
Halberstadt	47.6	28.5	21.42	19.04
Hornburg	35.7	23.8	23.8	19.04
Jerichow	35.7	19.04	16.66	11.9
Loburg	35.7	17.85	17.85	14.28
Magdeburg (with Buckau and Neustadt)	47.6	33.3	28.5	23.8
Möckorn	35.7	17.85	17.85	14.28
Neu-Haldensleben	41.65	23.8	23.8	17.85
Oebisfelde	38	23.8	23.8	19.04
Oschersleben	41.65	28.5	23.8	19.04
Osterburg	35.7	23.8	23.8	19.04
Osterwick	40.4	23.8	23.8	19.04
Quedlinburg	38	26.18	26.18	21.42
Gross Salze	41.65	23.8	23.8	19.04
Salzwedel	38	26.18	23.8	17.85

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Magdeburg—Continued.				
Towns—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Sandau	35.7	21.42	17.85	11.9
Schönebeck	47.6	28.5	23.8	19.04
Schwanebeck	38.08	23.8	23.8	19.04
Seehausen (on the Aland)	35.7	23.8	23.8	17.85
Seehausen (near Magdeburg)	38.08	23.8	19.04	18.85
Stassfurt	47.6	28.5	28.5	19.04
Stendal	35.7	23.8	17.85	17.85
Tangermünde	35.7	23.8	23.8	17.85
Wanzleben	35.7	23.8	23.8	21.42
Wegeleben	38.08	23.8	23.8	19.04
Werben	35.7	23.8	23.8	17.85
Wernigerode	40.4	28.5	23.8	19.04
Wolmirstedt	41.65	23.8	23.8	23.8
Ziesar	35.7	19.04	19.04	14.28
Governmental district of Merseburg.				
Townships:				
Bitterfeld	35.7	19.04	19.04	14.28
Delitzsch—				
Town of Eilenburg	35.7	23.8	21.42	19.04
Districts of Paupitzsch, Loebnitz, Reibitz, Badrina, Pressen, Jesewitz, Hohenpriessnitz, Tiefensee, Mensdorf, Doberschütz, and Spratta	28.5	16.66	11.9	11.9
Other parts	33.3	19.04	14.28	14.28
Districts:				
Eckartsberga	29.6	17.85	17.85	14.28
Liebenwerda	28.5	16.66	11.9	9.52
Mansfeld—				
Towns of Ermsleben, Hettstädt, Leimbach, and Mansfeld	38.08	23.8	21.42	14.28
Other part	35.7	19.04	19.04	14.28
Naumberg—				
Town of Naumburg	41.65	21.42	27.37	19.04
Other part	41.65	21.42	17.85	14.28
Querfurt	35.7	19.04	19.04	19.04
Saalkreis	41.65	19.04	23.8	16.66
Sangerhausen—				
Towns of Sangerhausen and Artern	38.08	23.8	19.04	19.04
Other part	29.6	19.04	16.66	16.66
Schweinitz	28.5	16.66	11.9	9.52
Torgau	29.6	16.66	17.85	14.28
Weissenfels—				
Towns of Weissenfels and Teuchern	38.08	23.8	23.8	19.04
Other part	33.3	19.04	19.04	14.28
Wittenberg	33.3	16.66	16.66	11.9
Town of Zeitz	41.65	23.8	19.04	17.85
Other part	35.7	19.04	23.8	17.85
Township of Halle-on-the-Saale	52.36	26.18	28.5	23.8
Governmental district of Erfurt.				
Townships:				
Erfurt	47.6	28.5	21.42	19.04
Nordhausen	38.08	21.42	16.66	16.66
Heiligenstadt (except the below-mentioned towns)	28.5	19.04	14.28	11.9
Langensalza (except the below-mentioned towns)	35.7	21.42	16.66	14.28
Mühlhausen (except the below-mentioned towns)	33.3	21.42	16.66	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Erfurt—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Schleusingen	35.7	23.8	19.04	14.28
Hohenstein	23.8	17.85	14.28	19.04
Weissensee (except the below-mentioned towns)	33.3	21.42	16.66	14.28
Worbis	33.3	19.04	14.28	14.28
Ziegenrück	19.04	17.85	14.28	9.52
Towns:				
Langensalza	38.08	21.42	16.66	16.66
Mühlhausen	38.08	21.42	16.66	16.66
Tennstedt	29.6	21.42	16.66	14.28
Heiligenstedt	38.08	19.04	16.66	14.28
Dingelstedt	38.08	19.04	14.28	11.9
Ziegenrück	35.7	23.8	29.42	17.66
Ranis	35.7	23.8	21.42	17.66
Sömmerda	38.08	29.42	16.66	14.28
Governmental district of Schleswig.				
Townships:				
Altona	58.6	47.84	23.8	23.8
Apenrade	42.84	31	23.8	21.42
Town of Apenrade	54.4	....	....	....
Eckernförde—				
Districts:				
Barby	47.6	28.5	17.85	15.37
Barkelsby	38.08	21.42	14.28	11.9
Rögen	35.7	17.85	14.28	11.9
Saetorf	38.08	21.42	17.85	12.09
Ludwigsburg	32.13	19.04	14.28	11.9
Damp	38.08	21.42	14.28	14.28
Karby	38.08	23.8	23.8	14.28
Grünholz	36.8	23.8	14.28	11.9
Maasleben	44.03	21.42	14.28	14.28
Escholsmark	36.8	20.23	15.47	11.92
Büstorf	42.8	23.8	16.66	14.28
Fleckeby	38.9	22.61	17.85	15.47
Hütten	40.28	21.42	16.66	14.28
Owschlag	38.08	17.85	15.47	11.9
Gross Wittensee	42.8	22.61	16.66	14.28
Sehestedt	40.28	21.42	15.47	11.92
Windeby	36.8	17.85	11.9	11.9
Marienthal	47.6	23.8	17.85	15.47
Altenhof	47.6	23.8	17.85	15.47
Lindau	35.7	20.23	14.66	11.92
Warleberg	43.9	22.61	16.66	15.47
Borghorst	40.28	20.23	16.66	14.28
Rendsburg	47.6	32.13	23.8	21.42
Town of Rendsburg	57.1	....	....	....
Schleswig	42.8	28.5	21.42	16.66
Segeberg	40.28	28.5	19.04	16.66
Sonderburg	38.08	28.5	21.42	19.04
Steinburg	47.6	28.5	20.23	15.47
Stormarn, Wandsbeck, Reinbeck, Sande, Lohbrügge, [illegible], Kirch, Steinbeck, Schoffbeck, and Oejendorf	59.5	42.8	23.8	23.8
Geest	42.8	28.5	23.8	14.28
Other places	42.8	28.5	19.04	17.85

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Schleswig—Continued.				
Marsch districts:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Tondern, Islands of Silt, and Föhr	52.3	33.3	28.5	19.04
Tondern, Goger	57.1	28.5	30.94	16.66
Other places	47.6	21.42	28.5	14.28
Governmental district of Hanover.				
Townships:				
Diepholz	38.08	26.1	21.42	19.04
Hameln—				
Towns:				
Hameln	47.6	29.69	17.85	11.9
Bodenwerder	35.7	23.8	19.04	17.85
Other parts	35.7	23.8	17.85	11.9
Land district of Hanover	42.84	28.5	23.8	19.04
Townships:				
Hanover	47.6	35.7	28.5	23.8
Hoya	35.7	26.1	23.8	16.66
Linden	47.6	30.94	23.8	16.66
Land district of Linden—				
Badenstedt, Bormm, Davenstedt, Limmer, and Ricklington	47.6	30.94	23.8	16.66
Other part of the formerly country district of Linden	35.7	23.8	23.8	14.28
Wennigsen	47.6	28.5	23.8	19.04
Townships:				
Neustadt-am-Rubenberge	35.7	23.5	23.8	....
Town of Wunsdorf	35.7	26.18	19.04	19.04
Other part	35.7	26.18	19.04	19.04
Nienburg—				
Town of Nienburg	38.08	23.8	30.94	19.04
Other part	33.3	19.04	19.04	16.66
Springe—				
Towns:				
Springe	35.7	23.8	23.8	19.04
Eldagsen	35.7	24.99	26.1	23.8
Münder	35.7	23.8	23.8	17.85
Pattensen	35.7	23.8	28.5	23.6
Other part	33.3	23.8	16.66	14.28
Stolzenau	33.3	21.42	16.66	14.28
Sulingen	35.7	23.3	23.8	14.28
Syke—				
Freidorf	47.6	23.8	23.8	11.9
Former Freudenberg	35.7	23.8	19.04	11.9
Governmental district of Hildesheim.				
Townships:				
Alfeld—				
Municipalities of Alfeld and Lübbrechtsen	35.7	19.04	19.04	14.28
Other part	35.7	23.8	19.04	14.28
Duderstadt—				
Town of Duderstadt	38.08	26.18	23.8	16.66
Other part	35.7	23.8	16.66	16.66
Einbeck—				
Town of Einbeck	35.7	23.8	19.04	19.04
Other part	35.7	23.8	23.8	16.66
Göttingen—				
Towns:				
Göttingen	35.7	23.8	19.04	14.28
Reinhausen (except Meensen and Ellerode)	38.5	19.04	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Hildesheim—Continued.				
Townships—Continued.				
Peine—	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Town of Peine	42.84	28.5	19.04	19.04
Other part	38.08	21.42	21.42	14.28
Uslar	28.5	21.42	21.42	14.28
Zellerfeld	29.68	21.42	17.85	14.28
Governmental district of Lüneburg.				
Townships:				
Burgdorf—				
Land district of Burgdorf	35.7	26.18	19.04	14.28
Burgwedel	35.7	26.18	21.42	19.04
Town of Burgdorf	35.7	28.5	26.18	23.8
Bleckede (former bailiffs of Bleckede and Neuhaus-on-the Elbe)	28.5	19.04	19.04	14.28
Celle	35.7	23.8	19.04	19.08
Land district of Celle—				
Bergen	33.3	23.8	23.8	14.28
Celle	35.7	23.8	21.42	16.66
Meinersen	35.7	26.18	23.8	19.04
Dannenberg (except the town of Dannenberg)	35.7	26.18	19.04	19.04
Town of Dannenberg	33.3	23.8	....	....
Fallingbastel—				
Former amts districts:				
Ahlden	28.7	19.04	23.8	14.28
Fallingbastel	35.7	23.8	17.04	16.66
Gifhorn (former amts districts of Fallersleben, Gifhorn, and Meinersen)	35.7	26.18	23.8	19.04
Town of Gifhorn	35.7	23.8	19.04	19.04
Harburg-on-the-Elbe	57.2	35.7	28.5	19.04
Wilstorf, Heimfeld, and Eissendorf	47.6	35.7	28.5	23.8
Other places	35.7	28.5	23.5	19.04
Former amts district of Tastedt	30.94	21.42	19.04	14.28
Tsenhagen	28.5	19.04	14.28	11.9
Lüchow—				
Former amts district of Lüchow	30.94	21.42	19.04	14.28
Town of Lüchow	30.94	21.42	16.66	16.66
Lüneburg	38	23.8	21.42	16.66
Land district of Lüneberg	35.7	23.8	19.04	14.28
Soltau	35.7	23.8	23.8	14.28
Uelzen—				
Former amts districts of Meedingen and Oldenstadt	35.7	23.8	16.66	14.28
Town of Uelzen	35.7	23.8	14.28	14.28
Winsen-on-the Luhe—				
Former amts districts:				
Winsen	35.7	23.8	17.35	11.9
Geeste	28.5	19.04	14.28	11.9
Town of Winsen-on the-Luhe	38	23.8	19.04	19.04
Governmental district of Stade.				
Townships:				
Achim (except Hemslingen)	41.88	29.98	23.8	17.86
Hemslingen	53.78	35.7	26.8	21.42
Bremervorde—				
Town of Bremervorde	41.88	23.8	17.86	27.86
Municipality of Elm	42.84	26.18	23.8	19.04
Other parts	41.88	29.98	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Stade—Continued.				
Townships—Continued.				
Blumenthal—	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Municipalities of Aschwarden, Busch, and Hinnebuk	47.6	35.7	28.5	23.8
Other part	47.6	35.7	23.5	17.86
Geestemünde—				
Geestemünde, Geestendorf, Schiffdorf, and Wulsdorf	71.4	41.88	35.7	23.8
Lehe, Langen, and Spaden	71.4	41.88	35.7	23.8
Wanhöden and Wehden	52.3	35.7	28.5	23.8
Former amts district of Dorum	41.88	29.98	26.8	20.46
Other parts	47.6	35.7	28.5	23.8
Stade—				
Town of Stade	47.6	40.38	14.75	11.9
Former amts district of Himmelpforten	42.84	26.8	23.8	19.04
Verden—				
Town of Verden	41.88	29.98	11.9	11.9
Other part	38	28.5	23.5	19.04
Zeven	35.7	28.5	23.5	19.04
Governmental district of Osnabrück.				
Townships:				
Bersenbrück—				
Town of Ornakenbrück	42.84	33.3	14.28	11.9
Former amts districts—				
Bersenbrück	33.3	26.8	17.85	14.28
Füstenau	29.68	17.85	9.52	9.42
Vörden	33.3	26.8	21.42	19.04
Lingen	38	28.5	19.04	11.9
Papenburg	35.7	23.8	17.85	14.85
Meppen:				
Former amts districts—				
Haselünne	35.7	23.8	14.28	9.42
Hümmling	35.7	23.8	14.28	9.52
Town of Meppen	36.8	23.8	16.66	14.28
Other parts of the former amts district of Meppen	35.7	29.68	23.8	....
Osnabrück	42.84	28.5	26.8	19.04
Land district of Osnabrück	35.7	26.8	21.42	19.04
Wittlage	28.5	21.42	19.04	14.28
Governmental district of Aurich.				
Municipalities of the former amts districts:				
Aurich (except the town of Aurich)	35.7	23.8	17.85	11.9
Emden (except the town of Emden)	36.8	23.8	16.66	14.28
Esens (except the town of Esens)	34.4	21.42	19.04	15.47
Leer	35.7	23.8	17.85	11.9
Norden (except the towns of Norden and Norderney)	36.89	23.8	17.85	15.47
Stickhausen	35.7	23.8	17.85	11.9
Weener	29.68	17.85	14.28	11.9
Wittmund	34.4	21.42	19.04	15.47
Towns:				
Aurich	42.84	33.3	21.42	14.28
Emden	45.2	26.8	13.09	13.09
Esens	35.7	19.04	14.28	11.9
Leer	47.6	35.7	17.85	11.9
Norden	41.77	23.8	23.85	17.85
Wilhelmshaven	52.36	35.7	29.68	23.8
Norderney Island	54.74	35.7	31	23.8

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Münster.				
Townships:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Münster	42.84	28.5	16.66	11.9
Ahaus	31	23.5	16.66	14.28
Beckum	39.19	26.8	23.8	19.04
Bochold	47.6	35.7	31	28.5
Kösfeld—	35.7	23.8	19.04	16.66
Town of Dülmen				
Buldern and Hiddingsel	35.7	23.8	21.42	16.66
Other parts	31	23.8	21.42	16.66
Land district of Münster	33.3	23.8	21.42	16.66
Townships:				
Recklinghausen—				
Municipalities of Bottrop, Buer, Gladbeck, Herten, Horst, and Osterfeld, and town of Recklinghausen	54.74	36.8	29.6	23.8
Datteln, Henrichenburg, Horneburg, Oer, Recklinghausen (land district), Luderwich, Waltrop, and Westerholt	42.84	29.6	23.8	17.85
Other parts	36.8	28.5	23.8	14.28
Steinfurt—				
Burgsteinfurt, Rheine, and Barghorst	40.4	28.5	23.8	19.04
Metelen	28.5	23.8	19.04	14.28
Other parts	35.7	28.5	23.8	19.04
Tuklenburg—				
Town of Ibbenbüren	47.6	23.8	21.42	16.66
Other part	35.7	23.8	21.42	16.66
Warendorf	35.7	23.8	21.42	19.04
Other parts	35.7	29.6	19.04	19.04
Governmental district of Minden.				
Township of Bielefeld:				
Town of Bielefeld	42.84	33.3	28.5	19.04
Amts districts—				
Brackwede	40.4	31	23.8	19.04
Dornberg	35.7	23.8	17.85	11.9
Godderbaum	40.7	31	23.5	23.8
Schildesche	38	23.8	14.28	14.28
Uelpen	33.3	21.42	17.85	11.9
District of Büren:				
Amts districts—				
Atteln	42.84	33.3	28.5	19.04
Büren	40.7	31	23.8	19.04
Fürstenberg	35.7	19.04	23.8	11.94
Lichtenau	35.7	17.85	17.85	9.42
Oeynhausen	29.6	17.85	16.66	11.9
Petershagen	33.3	23.8	23.8	23.8
Schlüsselburg	23.8	23.8	20.23	20.23
Windheim	29.6	21.42	11.9	11.9
Town of Salzkotten	35.7	23.8	23.8	19.04
Townships:				
Paderborn—				
Town of Paderborn	38	23.8	19.04	11.9
Amts districts:				
Delbrück	35.7	29.6	23.8	23.8
Kirchberehen	28.5	19.04	11.9	11.9
Lippspring	33.7	23.8	17.85	11.9
Neuhaus	35.7	26.8	23.8	17.85

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Minden—Continued.				
Townships—Continued.				
Warburg—				
Amts districts:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bergholz	28.5	19.04	14.28	14.28
Borgentreich	23.8	14.28	14.28	11.9
Dringenberg	23.8	16.66	11.9	9.42
Peckelsheim	35.7	23.8	17.85	17.85
Warburg	36.8	28.5	23.8	17.85
Town of Warburg	29.69	22.5	17.85	14.28
Wiedenbrück—				
Towns:				
Güterslohe	35.7	26.18	23.8	20.19
Rheda	35.7	26.18	14.28	11.9
Wiedenbrück	28.5	19.04	14.28	11.9
Amts districts:				
Güterslohe	35.7	23.8	17.85	11.9
Herzebrock	35.7	35.7	23.8	23.8
Rheda	28.5	16.66	11.9	9.42
Reckenberg	28.5	19.04	14.28	11.9
Rietberg	29.69	23.8	23.8	17.85
Verl	31	23.8	23.8	17.85
Governmental district of Arnsberg.				
Townships:				
Altena	52.36	35.7	26.58	23.8
Arnsberg	42.84	28.5	21.42	16.66
Bochum, Gelsenkirchen, Hattingen, and land district of Bochum	52.36	35.7	26.18	21.42
Brilon	35.7	23.8	19.04	14.28
Dortmund and Hörde	47.6	26.5	23.8	19.04
Hagen, Schwelm, and land district of Hagen	48.7	33.3	26.5	23.8
Hamm—				
Towns:				
Hamm	41.65	33.3	28.5	19.04
Unna Camen	47.6	28.5	23.8	19.04
Other part	40.4	26.18	23.8	21.42
Iserlohn—				
Town of Iserlohn	52.36	29.69	29.65	19.04
Amts district of Hohenlimburg	52.36	23.8	30.94	19.04
Other parts	42.84	28.5	21.42	16.66
Lippstadt	35.7	23.8	19.04	14.28
Meschede	42.84	28.5	23.8	16.66
Olpe	42.84	29.69	28.5	19.04
Soest	38	28.5	23.8	21.42
Wittgenstein	35.7	26.18	21.42	16.66
Governmental district of Cassel.				
Townships:				
Cassel	50.45	32.84	29.27	21.42
Land district of Cassel	35.7	21.42	21.42	21.42
Eschwege—				
Town of Eschwege	35.7	26.18	21.42	21.42
Other part	28.5	21.42	11.9	9.42
Frankenberg (including the former districts)—				
Vohl	35.7	28.5	23.8	19.04
Fritzlar	33.3	23.8	21.42	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Cassel—Continued.				
Townships—Continued.				
Fulda—	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Town of Fulda	39.19	30.94	26.18	21.42
Other part	31	21.42	16.66	14.28
District of Gelnhausen:				
Former district of Orb	35.7	23.8	19.04	14.28
Municipalities of this district	33.3	23.8	21.42	19.04
Townships:				
Gersfeld	28.5	21.42	19.04	16.66
Hanau	41.65	29.69	23.8	16.66
Land district of Hanau—				
Fechenheim, Bergen, Kesselstadt, Oberrodenbach, Wachenbuchen, Bischofsheim, and Dörnegheim	47.6	31	23.8	16.66
Other parts	35.7	26.18	21.42	14.28
Townships:				
Melsungen	28.5	21.42	14.28	11.9
Rinteln	35.7	26.18	23.8	21.42
Rothenburg	31	23.8	21.42	19.04
Schlüchtern	33.3	23.8	19.04	16.66
Schmalkalden	35.7	21.42	19.04	16.66
Witzenhausen	33.3	21.42	19.04	14.28
Wolfhaagen	53.3	23.8	21.42	16.66
Ziegenhain	35.7	26.18	21.42	17.85
Governmental district of Wiesbaden.				
Townships:				
Biedenkopf—				
Municipalities of Krumbach, Fellingshausen, Frankenbach, Hermannstein, Königsberg, Naunheim, Rodheim-on-the-Bieber, and Waldgirmas	47.6	31	23.8	19.04
Other part	35.7	23.8	19.04	14.28
Dilki—				
Municipalities of Allendorf, Bergebersbach, Haiger, Mandeln, Oberscheld, Ritterhausen, Strassebersbach	35.7	19.04	16.66	11.9
Other part	40.4	23.8	19.04	14.28
Oberwalderkreis	40.4	23.8	19.04	14.28
Districts:				
Westerburg	42.84	28.5	23.8	16.66
Lümburg and Unterlahnkreis—				
Municipalities of Lümburg, Ems, Diez, Nassau, Lündenholzhausen, Bergnassau, Scheuern, Freiendiez, Gückingen, Dehm, Dietkirchen, Staffel, Oberbrechen, Dauborn, Eschhofen, Mensfelden, Mühlen, and Nieder-Brechen	42.84	28.5	23.8	19.04
Other municipalities of the districts of Lümburg, Diez, and Nassau	35.7	28.5	23.8	19.04
Municipalities of the former amts district of Nastätten	35.7	23.8	23.8	11.9
Kamberg and Nieder Selters	47.6	28.5	23.8	16.66
Usingen and Obertaunus (town of Frankfort-on-the-Main)—				
Amts district of Usingen	35.7	23.8	19.04	14.28
Municipalities:				
Eckenheim and Seckenbach	38	26.18	26.18	16.66
Ginnheim, Berckersheim, Traunheim, and Seckbach	38	26.18	26.18	16.66
Bonnames and Hausen	52.36	28.5	23.8	19.04
Oberrad and Niederad	57.1	33.3	28.5	23.8
Nieder-Ursel	35.7	23.8	17.85	14.28
Heddernheim	47.6	28.5	19.04	14.28
Rödelheim	47.6	28.5	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Wiesbaden—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Township of Wiesbaden	49.9	33.3	23.8	15.38
Land district of Wiesbaden:				
Municipalities of the amts district of Wiesbaden (except Wildsachsen)	47.6	23.5	19.04	14.28
Municipality of Wildsachsen	35.7	23.8	19.04	14.28
Amts district of Hochheim	47.6	28.5	19.04	14.28
Governmental district of Coblentz.				
Townships:				
Adenau	31	23.8	19.04	14.28
Ahrweiler	35.7	28.5	23.8	19.04
Altenkirchen	42.8	28.5	23.8	23.8
Coblentz	42.8	28.5	23.8	9.42
Land district of Coblentz	42.8	26.18	23.8	16.66
Cochem—				
Burgomasteries of Lutzerath and Kaisersesch	33.3	23.8	16.66	11.9
Other part	42.8	28.5	21.42	14.28
St. Goar—				
Town of St. Goar and the burgomasteries of Bacharach, Brodenbach, Bappard, Nieder-Heimbach, and Oberwesel	42.8	28.5	23.8	16.66
Other part	35.7	26.18	23.8	16.66
Kreuznach	35.7	23.8	21.42	16.66
Mayen—				
Burogmastery of Burgbrahl and land district of Mayen	38	26.18	19.04	14.28
Other part	42.8	28.5	19.04	14.28
Meisenheim	33.3	28.5	23.8	21.42
Neuwied—				
Burgomasteries:				
Neuwied, Engers, Heddesdorf, Leutesdorf, Lintz, and Unkel	42.8	23.8	19.04	14.28
Anhausen, Asbach, Diersdorf, Neuerburg, Neustadt, Niederwambach, and Puderbach	35.7	23.8	19.04	14.28
Simmern	35.7	28.5	19.04	16.66
Wetzlar—				
Burgomasteries:				
Wetzlar and Braunsfels	42.8	23.5	23.8	14.28
Asslar, Atzbach, Greifenstein, Hohen Solms, Launsbach, Rechtenbach, and Schöffengrund	35.7	23.5	23.8	14.28
Zell—				
Burgomasteries of Zell (town and land district) and Trarbach	40.4	28.5	26.18	19.04
Other part	35.7	26.18	21.42	16.66
Governmental district of Dusseldorf.				
Townships:				
Barmen	57.1	35.7	23.8	19.04
Cleves—				
Town of Goch	38	23.9	16.66	14.28
Other part	33.3	21.42	16.66	14.28
Crefeld	57.1	35.7	28.5	23.8
Land district of Crefeld	45.2	33.3	23.8	19.04
Dusseldorf	57.1	35.7	28.5	19.04
Land district of Dusseldorf	47.6	33.3	23.8	19.04
Duisburg	57.1	35.7	28.5	19.04
Elberfeld	57.1	35.7	23.8	19.04
Essen	57.1	35.7	28.5	19.04
Land district of Essen	52.3	33.3	23.8	19.04
Geldern	40.4	28.5	19.04	16.66

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Dusseldorf—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
München-Gladbach	47.6	35.7	23.8	19.04
Grevenbroich	42.8	28.5	23.8	19.04
Kempen	42.8	28.5	19.04	16.66
Lennep—				
Towns of Lüttringhausen and Ronsdorf	52.3	35.7	23.8	19.04
Burgomastery of Dabringhausen	42.8	28.5	42.8	19.04
Other parts	47.6	33.3	23.8	19.04
Mettmann	47.6	35.7	23.8	19.04
Moers	38	25.5	19.04	16.66
Mülheim-am-Ruhr	52.3	35.7	23.8	19.04
Neuss—				
Town of Neuss	47.6	33.3	23.8	19.04
Other part	42.8	28.5	23.8	19.04
Rees—				
Towns:				
Wesel	47.6	33.3	23.8	19.04
Emmerich and Issenburg, and community of Hurl	42.8	28.5	23.8	19.04
Remscheid	52.2	35.7	23.8	19.04
Ruhrort—				
Burgomastery of Dinslaken, town and land district of Duisburg, and land districts of Gahlen and Goettersiwickerhamm	47.6	38.3	23.8	19.04
Other part	52.3	35.7	23.5	19.04
Solingen—				
Towns of Dorp, Gräfrath, Höhscheid, Merscheid, Solingen, and Wald	52.3	35.7	23.5	19.04
Other part	42.8	28.5	23.5	19.04
Governmental district of Cologne.				
Townships:				
Bonn—				
Town of Bonn and burgomastery of Godesberg	47.6	28.5	23.5	19.04
Other part	35.7	28.5	23.5	19.04
Bergheim	35.7	28.5	23.5	19.04
Euskirchen	35.7	23.5	19.04	14.28
Gummersbach—				
Burgomasteries:				
Gummersbach and Neustadt	47.6	33.3	23.8	19.04
Gimborn, Marienheide, Ründeroth, and Wiehl	47.6	28.5	23.8	19.04
Other part	35.7	23.8	19.04	14.28
Cologne	59.5	35.7	35.7	19.04
Land district of Cologne—				
Towns of Deutz, Kalk, and Longerich	47.6	33.3	23.8	19.04
Burgomasteries:				
Efferen and Rondorf	47.6	28.5	23.8	19.04
Brühl, Freimersdorf, and Stommelen	35.7	23.5	23.8	17.85
Other parts	42.8	28.5	23.8	19.04
Mülheim-am-Ruhr—				
Town of Mülheim-am-Ruhr	59.5	35.7	35.7	23.8
Burgomastery of Rösrath	35.7	23.8	14.28	11.9
Other parts	42.8	28.5	23.8	19.04
Rheinbach	35.7	23.8	19.04	14.28
Sieg—				
Town and burgomastery of Siegburg and town of Königswinter	47.6	23.8	19.04	14.28
Burgomasteries of Eitarf, Honnef, and Menden	42.8	23.8	19.04	14.28
Other parts	35.7	23.8	17.85	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Cologne—Continued.				
Townships—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Waldbröl	35.7	23.8	17.85	11.9
Wipperfürth—				
Town of Wipperfürth	47.6	35.7	23.8	19.04
Other part	38	23.8	17.85	11.9
Governmental district of Treves.				
Townships:				
Bernkastel—				
Towns of Bernkastel, Lieser, and Zeltingen and municipality of Graach	40.4	26.18	26.18	19.04
Burgomasteries of Bernkastel (except the municipality of Graach), Mülheim, Neumagen, Morbach, Rhaunen, Thalfang, and Wirschweiler	33.3	26.18	23.8	19.04
Bitburg	35.7	28.5	19.04	19.04
Daun	35.7	23.5	21.42	19.04
Merzig	41.5	26.18	23.8	14.28
Ottweiler	42.8	26.18	23.8	14.28
Prüm—				
Town of Prüm	47.6	35.7	23.8	23.8
Burgomasteries	35.7	28.5	17.85	16.66
Saarbrücken	42.8	26.18	23.8	14.28
Saarburg	33.3	22.61	19.04	16.66
Saar-Louis	42.8	33.3	14.28	14.28
Treves—				
Municipalities of Conz and Merzlich	40.4	28.5	19.04	14.28
Other part	35.7	23.5	19.04	14.28
St. Wendel—				
Town and burgomastery of St. Wendel	47.6	23.5	23.8	11.9
Burgomasteries:				
Alsweiler and Oberkirchen	42.8	23.5	23.8	14.28
Baumholder and Burglichtenberg	38	29.4	23.8	19.04
Grumbach and Sien	35.7	26.18	23.8	19.04
Wittlich	31	23.8	19.04	14.28
Governmental district of Aix la Chapelle.				
Townships:				
Aix la Chapelle	47.6	28.5	23.8	16.66
Aachen—				
Burgomasteries of Brand, Burtscheid, Büsbach, Cornelimünster, Eschweiler, Forst, Gressenich, Kürzweiler, Stolberg, and Walheim	47.6	28.5	23.8	16.66
Other part	42.8	28.5	19.04	14.28
Düren—				
Burgomasteries:				
Birgel, Drove, Lamersdorf, Niddeggen, Nathberg, Pier, Stockheim, and Strass-Bergstein	42.8	28.5	21.42	16.66
Volz and Sievernich	33.3	23.8	19.04	14.28
Other part	38	23.8	19.04	14.28
Schleiden—				
Burgomasteries:				
Bleibnir, Eicks, Gemünd, Harperscheid, Heimbach, Hellenthal, Hallerath, Schleiden Udenbreth, Vussem, and Weyer	42.8	28.5	21.42	16.66
Holzmülheim, Tondorf, and Lammersdorff	38	26.18	19.04	16.66
Other part	35.7	23.8	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female	Male.	Female
THE KINGDOM OF PRUSSIA—continued.				
Governmental district of Aix la Chapelle—Continued.				
Townships—Continued.				
Eupen—	*Cents.*	*Cents.*	*Cents.*	*Cents*
Town of Eupen	42.8	28.5	23.8	23.8
Other part	47.6	28.5	17.85	17.85
Other parts	35.7	23.8	21.42	16.66
Hohenzollern.				
Upper amts districts:				
Sigmaringen (except the town of Sigmaringen)	35.7	23.8	19.04	14.28
Town of Sigmaringen	38	23.8	19.04	14.28
Gammertingen	35.7	23.8	19.04	14.28
Haigerlach	35.7	23.8	19.04	14.28
Hechingen (except the town of Hechingen)	35.7	23.8	19.04	14.28
Town of Hechingen (further factory workmen and women, particular conditions)	47.6	28.5	26.18	14.28
KINGDOM OF BAVARIA				
Governmental district of Upper Bavaria.				
Towns:				
Munich	54.74	35.7	26.18	23.8
Freising	35.7	23.8	19.04	16.66
Landsberg	42.8	28.5	19.04	16.66
Rosenheim	45.18	35.7	23.8	21.42
Traunstein	47.6	35.7	23.8	19.04
Extents of jurisdiction:				
Aichach	40.4	31	23.8	19.04
Alt-Oetting, Neu Oetting, and Burghausen	42.8	31	19.04	16.66
Other part	31	26.18	19.04	16.66
Berchtesgaden:				
Municipality and Reichenhall	47.6	35.7	23.8	19.04
Other part	35.7	23.8	16.66	11.9
Bruck	33.3	23.8	19.04	19.04
Dachau	40.4	31	23.8	19.04
Ebersberg	38	31	23.8	16.66
Erding	35.7	28.5	21.42	16.66
Freising (except the town of Freising)	35.7	28.5	21.42	16.66
Friedberg—				
Municipality of Lechhausen	42.8	33.3	16.66	14.28
Other part	33.3	23.8	16.66	14.28
Garmisch—				
Oberammergau	52.3	35.7	31	23.8
Oberau	47.6	35.7	31	23.8
Ettal, Garmisch, and Partenkirchen	47.6	35.7	28.5	23.8
Other parts	38	28.5	23.8	16.66
Ingolstadt (except the town of Ingolstadt)	38	28.5	21.42	16.66
Landsberg (except the town of Landsberg)	35.7	28.5	21.42	19.04
Laufen	33.3	26.18	19.04	16.66
Miesbach	45.18	35.7	26.18	21.42
Mühldorf	31	26.18	19.04	16.66
Münich (except the town of Munich)	47.6	35.7	26.18	21.42
Amts districts:				
Starnberg	40.4	31	23.8	19.04
Wolfratshausen	40.4	31	23.8	19.04
Pfaffenhofen	38	28.5	21.42	16.66
Rosenheim (except the town of Rosenheim)	38	31	23	16.66
Schöngau	40.4	31	21.42	16.66
Schrobenhausen	35.7	28.5	14.28	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF BAVARIA—continued.				
Governmental district of Upper Bavaria—Continued.				
Townships—Continued.				
Tölz:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Benediktbeuren, Biehl, Koehl, and Tölz	47.6	35.7	23.8	19.04
Traunstein (except the town of Traunstein)	38	28.5	21.42	16.66
Wasserberg	33.3	26.18	19.04	16.66
Weilheim	45.18	31	23.8	16.66
Governmental district of Lower Bavaria.				
Towns:				
Deggendorf, Landshut, and Straubing	35.7	28.5	23.8	19.04
Passau	33.3	23.8	19.04	14.28
Extents of jurisdiction:				
Dingelfing, Eggenfelden, Griesbach, Landau, Landshut, Mallersdorf, Pfarrkirchen, Rottenburg, and Vilsbiburg	35.7	28.5	23.8	19.04
Bogen, Deggendorf, Kelheim, and Passau	33.3	23.8	19.04	14.28
Wegscheid	28.5	21.42	16.66	11.9
Gatenau and Kötzting	23.5	19.04	14.28	9.42
Governmental district of Palatinate.				
Cantons:				
Bergzabern, Blieskastel, Dürkheim, Edenkolen, Frankenthal, Kaiserslautern, Landau, Ludwigshafen, Neustadt-an-der-Hardt, Pirmasens, Speyer, Ingbert, and Zweibrücken	38	23.8	17.85	14.28
Annweiler, Dahn, Germersheim, Göllheim, Hamburg, Hornbach, Kandel, Kirchheim-Bolanden, Kusel, Landstuhl, Lauterecken, Moschel, Otterberg, Rockenhausen, Waldfischbach, Waldmohr, Winnweiler, and Wolfstein	33.3	23.8	17.85	14.28
Governmental district of Upper Palatinate and Regensburg.				
Townships:				
Amberg	35.7	28.5	19.04	14.28
Regensburg	33.3	21.42	19.04	11.9
Extents of jurisdiction:				
Amberg	23.8	21.42	11.9	11.9
Beilngries	31	26.18	19.04	16.66
Burglengenfeld	28.5	21.42	14.28	11.9
Cham	23.8	19.04	11.9	9.42
Eschenbach	23.8	19.04	11.9	9.42
Kemnath	23.8	19.04	16.66	14.28
Nabburg	23.8	19.04	11.9	9.42
Neumarkt	33.3	26.18	19.04	16.66
Neunberg	28.5	23.8	16.66	11.9
Regensburg	31	23.8	11.9	9.42
Stadt-am-Hof—				
Rainshausen, Sallern, Zeitbern, Schwabelweiss, Stadt-am-Hof, Steinweg, Tegernheim, and Sinzinger	35.7	23.8	21.42	14.28
Other part	28.5	21.42	16.66	11.9
Amts districts:				
Sulzbach	28.5	19.04	11.9	9.42
Tirschenreuth	28.5	19.04	14.28	11.9
Vohenstrauss	33.3	23.8	19.04	16.66
Waldmünster	19.04	14.28	11.9	9.42
Governmental district of Upper Franconia.				
Townships:				
Bamberg	35.7	28.5	23.8	16.66
Baireuth	35.7	26.18	19.04	11.9
Hof	38	23.8	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female
KINGDOM OF BAVARIA—continued.				
Governmental district of Upper Franconia—Continued.				
Amts districts:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bamberg	29	23.8	16.66	14.28
Gaustadt	40.4	28.5	23.8	23.8
Other part	31	23.8	16.66	14.28
Baireuth	23.8	19.04	14.28	11.9
Berneck	28.5	23.8	19.04	16.66
Ebermannstadt	31	29.4	21.42	19.04
Forchheim—				
Town of Forchheim	35.7	28.5	23.8	16.66
Districts:				
Forchheim	31	26.18	21.42	19.04
Gräfenberg	28.5	23.8	19.04	16.66
Hochstadt-on-the-Aisch	27.4	21.42	16.66	14.28
Hof	28.5	16.66	14.28	11.9
Kronach	28.5	21.42	16.66	14.28
Kulmbach—				
Town of Kulmbach	38	31	31	16.66
Districts:				
Kulmbach	28.5	23.8	19.04	14.28
Thurnau	23.5	19.04	14.28	11.9
Lichtenfels	28.5	23.8	16.66	14.28
Towns:				
Münchberg	38	31	28.5	23.8
Holmbrechts	33.3	23.8	23.8	19.04
Other part	28.5	23.8	19.04	14.28
Naila	31	23.8	16.66	14.28
Pegnitz	23.8	19.04	14.28	11.9
Rehau	27	21.42	16.66	14.28
Stadt-Steinach	28.5	23.8	19.04	17.85
Staffelstein	31	26.18	21.42	19.04
Wunsiedel—				
Towns of Wunsiedel, Weissenstadt, Kirchenlamitz, Redwitz, Thiersheim, and Thierstein	35.7	23.8	21.42	14.28
Other part	28.5	21.42	14.28	11.9
Governmental district of Middle Franconia.				
Towns:				
Auspach	35.7	23.8	19.04	14.28
Dinkelsbühl	31	24.9	16.66	14.28
Eichstädt	35.7	23.8	19.04	14.28
Erlangen	40.4	23.8	16.66	11.9
Fürth	47.6	28.5	23.8	20.35
Nuremberg	47.6	31	31	21.42
Rothenburg	28.5	23.8	14.28	11.9
Schwabach	35.7	23.8	11.9	11.9
Weissenburg	42.8	28.5	11.9	9.42
Amts districts:				
Anspach (except the above-mentioned towns)	28.5	21.42	14.28	13.1
Dinkelsbühl (except the above-mentioned towns)	35.7	28.5	23.8	19.04
Eichstädt (except the above-mentioned towns)	31	21.42	19.04	16.66
Erlangen (except the above-mentioned towns)	35.7	23.8	17.85	16.66
Feuchtwang	33.3	26.18	19.04	14.28
Fürth (except the town of Fürth)	38	28.5	23.8	19.04
Gunzenhausen	38	29.6	23.8	19.04
Nuremberg—				
District of Nuremberg	47.6	31	21.42	16.66
District of Altdorf	35.7	23.8	16.66	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF BAVARIA—continued.				
Governmental district of Middle Franconia—Continued.				
Amts districts—Continued.	*Cents.*	*Cents.*	*Cents*	*Cents.*
Schwabach	38	26.18	19.04	14.28
Uffenheim	41.7	33.3	23.8	19.04
Weissenburg (except the town of Weissenburg)	35.7	28.5	19.04	14.28
Town of Weissenburg	35.7	28.5	19.04	14.28
Governmental districts of Lower Franconia and Aschaffenburg.				
Towns:				
Aschaffenburg	42.8	26.18	21.42	16.66
Kitzingen	38	28.5	21.42	19.04
Schweinfurt	45.2	33.3	23.8	19.04
Würzburg	40.4	33.3	23.8	17.85
Amts districts:				
Alzenau	28.5	21.42	16.66	14.28
Aschaffenburg (except the town of Aschaffenburg)	33.3	23.8	19.04	16.66
Büsckenau	26.18	21.42	11.9	9.42
Ebern	31	23.8	16.66	14.28
Gerolzhofen	31	23.8	19.04	16.66
Hammelburg	28.5	23.8	19.04	16.66
Hassfurt	33.3	23.8	19.04	16.66
Kalstadt	33.3	26.18	21.42	16.66
Kissingen	28.5	23.8	19.04	16.66
Kitzingen (except the town of Kitzingen)	31	23.8	16.66	14.28
Königshofen	31	23.8	16.66	14.28
Lohr	28.5	21.42	16.66	11.9
Heidenfeld	33.3	23.8	16.66	11.9
Mellrichstadt	31	23.8	19.04	16.66
Miltenberg	33.3	23.8	21.42	16.66
Neustadt-an-der-Saale	31	23.8	19.04	16.66
Obernburg	35.7	26.18	21.42	19.04
Ochsenfurt	35.7	28.5	17.85	14.28
Schweinfurt (except the town of Schwienfurt)	35.7	28.5	19.04	14.28
Würzburg (except the town of Würzburg)	33.3	28.8	19.04	15.37
Governmental districts of Swabia and Neuburg.				
Towns:				
Augsburg	42.8	31	23.8	23.8
Dillingen	35.7	23.8	19.04	15.47
Donauwörth	33.3	23.8	19.04	14.28
Günzburg	28.5	21.42	21.42	17.85
Kaufbeuren	42.8	33.3	19.04	19.04
Kempten	42.8	29.6	23.8	19.04
Landau	63.07	41.5	35.7	23.8
Memmingen	38	28.5	19.04	14.28
Neuburg (on the Danube)	40.4	24.9	16.66	13
Nördlingen	40.4	35.7	19.04	16.66
Amts districts:				
Augsburg (except the town of Augsburg)—				
Municipalities:				
Göggingen and Oberhausen	42.8	33.3	23.8	19.04
Haunstetten	40.4	33.3	23.8	16.66
Schwabmünchen	40.4	28.5	23.8	23.8
Stadtbergen	40.4	35.7	28.5	23.8
Other part	38	28.5	23.8	19.04
Dillingen	35.7	28.5	19.04	14.28
Donauwörth	35.7	23.8	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF BAVARIA—continued.				
Governmental districts of Swabia and Neuburg—Continued.				
Amts districts—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Füssen	45.2	35.7	23.8	20.23
Lindau (except the town of Lindau)	47.6	35.7	23.8	20.23
New Ulm	38	21.42	16.6	15.47
Nördlingen (except the town of Nördlingen)	39.19	26.18	19.04	14.28
Oberdorf	33.3	26.18	19.04	16.66
Senthofen—				
Municipalities:				
Bleichach	47.6	40.4	35.7	23.8
Immerstadt	47.6	33.3	19.04	11.9
Senthofen	42.8	33.3	23.8	19.04
Other municipalities	42.8	31	22.7	17.85
Wertingen	39.19	28.5	23.8	19.04
Zumarshausen	35.7	28.5	21.42	16.66
KINGDOM OF SAXONY.				
District of Bautzen.				
Districts of Löbau, Bautzen, Camenz, and Zittau (except the following towns)	28.5	19.04	14.28	11.9
Bautzen	35.7	23.8	23.8	14.28
Camenz	33.3	23.8	19.04	14.28
Löbau	35.7	23.8	19.04	14.28
Zittau	42.8	28.5	21.42	19.04
Children from 12 to 14 years	....	....	8.23	7.25
Pulsnitz	35.7	23.8	14.28	11.9
Bernstadt	35.7	23.8	17.85	11.9
Children from 12 to 14 years	....	....	17.85	11.9
Bischofswerda (children from 12 to 14 years)	....	....	5.95	5.95
District of Dresden.				
Dresden, Altstadt (except the town of Dresden)	40.4	23.8	16.66	14.28
Children from 12 to 14 years	....	....	4.76	4.76
Löbau (children from 12 to 14 years)	....	....	9.49	9.49
Plauen (children from 12 to 14 years)	....	....	7.14	7.14
Dresden, Neustadt (except the towns of Dresden and Radeberg):				
Municipalities of Loschwitz, Weisser Hirsch, Wachwitz, Bühlau, Rochwitz, Fischhaus, Hasterwitz, Niederpayritz, Pillnitz, Oberpayritz, Söbrigen, Rockau, Helfenberg, and Gönnsdorf	38	23.8	19.04	14.28
Schönfeld, Reitzendorf, Zaschendorf, Pappritz, Malschendorf, Krieschendorf, Cunnersdorf, Schullwitz, Fohrsdorf, Weissig, and Ullersdorf	28.5	19.04	14.28	11.9
Eisenberg, Moritzburg, Reichenberg, Dippelsdorf, Buchholz, Wahnsdorf, Boxdorf, Wilschdorf, Rähnitz, Klotzsche, and Schloss Moritzburg	35.7	23.8	19.04	14.28
Pieschen, Trachenberge, Wild Man, Trachau, Mickten, and Uebigau	38	23.8	19.03	16.66
Radebeul, Kaditz, Serkowitz, Oberlössnitz, Kötzschenbroda, and Zitschewitz	35.7	23.8	19.04	14.28
Striessen	42.8	28.5	21.42	16.66
Blasewitz, Gruna, Seidnitz, Laubegast, and Tolkewitz	38	23.8	19.04	14.28
Other parts	28.5	16.66	11.9	11.9
Pirna and Schandau	35.7	19.04	16.66	11.9
Gottleuba (children from 12 to 14 years)	....	....	4.76	4.76
Dippoldiswalde	33.3	19.04	16.66	11.9
Dresden	42.8	28.5	21.42	16.6
Freiberg	35.7	19.04	16.66	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF SAXONY—continued.				
District of Dresden—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Grossenhain	35.7	19.04	16.66	14.28
Königstein	35.7	19.04	16.66	11.9
Lommatsch and Meissen	35.7	19.04	11.9	11.9
Neustadt, near Stolpen	35.7	23.8	11.6	14.28
Nossen	35.7	19.04	11.9	11.9
Children extra	....	....	7.14	7.14
Pirna	35.7	19.04	16.6	11.9
Radeberg	38	26.18	16.6	16.6
Riesa	33.3	19.04	19.94	14.28
Saida	31	19.04	14.28	11.9
Schandau	35.7	19.04	17.85	11.9
Sebnitz	35.7	28.5	17.85	14.28
Children extra	....	....	5.89	5.89
Meissen (children extra)	....	....	9.42	9.42
Leipsic.				
Town of Leipsic and environs	47.6	32.1	20.1	20.1
District of Leipsic (except the town of Leipsic)	35.7	23.8	20.1	20.1
Towns:				
Borna	35.7	20.1	20.1	20.1
Groitzsch	35.7	23.8	20.1	20.1
Pegau	35.7	23.8	23.8	20.1
Grimma	35.7	19.04	19.04	14.28
Winzen	35.7	20.1	15.30	11.9
Oschatz	35.7	23.5	14.28	14.28
Döbeln	32.19	20.23	20.23	15.47
Leisnig	35.7	20.23	20.23	15.47
Waldheim	32.19	23.8	20.23	15.47
Mittweida	35.7	23.8	17.85	15.47
Penig	38	28.5	23.8	23.8
Children from 12 to 14 years	....	....	5.89	5.89
Rochlitz	35.7	23.8	19.04	19.04
Brugstädt	35.7	23.8	17.85	15.47
Geringswalde	31	19.04	14.23	14.28
Lunzenau	35.7	23.8	20.23	15.47
Zwickau.				
Annaberg	28.5	23.8	19.04	14.28
Auerbach:				
Falkenstein, Lengenfeld, and Treuen	28.5	21.42	19.04	14.28
Auerbach and Klingenthal	33.3	21.42	19.04	14.28
Chemnitz:				
Limbach and Stolberg	35.7	23.8	19.04	14.28
Chemnitz	38	26.18	23.8	19.04
Flöha (except the below-mentioned towns)	35.7	21.42	19.04	14.28
Glauchau (except the below-mentioned towns)	35.7	23.8	19.04	14.28
Marienberg (except the below-mentioned towns)	31	21.42	19.04	14.28
Oelsnitz (except the below mentioned towns)	23.8	16.66	11.9	11.9
Plauen (except the below-mentioned towns)	28.5	19.04	19.04	11.9
Reichenbach	35.7	23.8	23.8	19.04
Schwarzenberg	35.7	19.04	19.04	14.28
Hartenstein, Kirchberg, and Wildenfels	33.3	23.8	16.66	11.9
Crimmitzschau, Werdau, and Zwickau	38	28.5	19.04	14.28
Towns:				
Adorf	28.5	19.04	14.28	14.28
Annaberg	38	28.5	28.5	19.04
Auerbach	35.7	23.5	21.42	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF SAXONY—continued.				
Zwickau—Continued.				
Towns—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Buchholz	33.3	23.5	19.42	14.28
Chemnitz	47.6	28.5	23.8	21.42
Crimmitzschau	42.8	28.5	23.8	21.42
Ehrenfriedersdorf	35.7	23.5	19.04	14.28
Eibenstock	38	23.5	19.04	14.28
Falkenstein	31	21.42	19.04	14.28
Frankenberg	35.7	23.8	19.04	14.28
Geyer	31	21.42	19.04	14.28
Glauchau	42.8	28.5	19.04	14.28
Hohenstein	35.7	23.5	19.04	14.28
Lengenfeld	35.7	23.5	19.04	14.28
Lichtenstein	35.7	23.5	19.04	14.28
Limbach	38	33.3	21.42	16.66
Lössnitz	35.7	23.8	19.04	14.28
Marienberg	31	21.42	19.04	14.28
Markneukirchen	35.7	23.8	23.8	14.28
Merane	35.7	28.5	19.04	14.28
Neustädtel	35.7	23.8	19.04	14.28
Oederan	35.7	23.8	23.8	14.28
Oelsnitz	33.3	23.8	19.04	14.28
Plauen	38	28.5	19.04	19.04
Reichenbach	42.8	33.3	23.8	21.42
Schneeberg	35.7	23.8	19.04	14.28
Schwarzenberg	35.7	23.8	19.04	14.28
Stollberg	35.7	23.8	21.42	14.28
Treuen	28.5	21.42	19.04	14.28
Thum	35.7	23.8	19.04	14.28
Waldenburg	35.7	23.8	23.8	14.28
Werdau	35.7	23.8	23.8	14.28
Zschoppau	35.7	28.5	23.8	14.28
Zwickau	42.8	28.5	23.8	21.42
Kändler	....	....	9.42	9.42
Reichenbrand	....	....	9.42	9.42
Neustädtel	....	....	9.42	9.42
KINGDOM OF WÜRTEMBERG.				
District of Neckar.				
Upper amts districts:				
Backnang	38	23.8	14.28	14.28
Besigheim	38	23.8	23.8	17.85
Böblingen—				
Sickfund Böblingen	35.7	23.7	22.06	20.1
Sickfund Sindelfingen	31.41	22.84	20.94	15.7
Brackenheim	38	28.5	28.5	19.04
Cannstadt	47.6	33.3	23.5	16.66
Esslingen—				
Town of Esslingen	47.6	28.5	23.5	16.66
Other part	42.8	31	23.5	16.66
Heilbronn—				
Town of Heilbronn	47.6	28.5	23.5	16.66
Other part	40.4	26.18	23.5	16.66
Leonberg	35.7	23.8	28.5	19.04
Ludwigsburg	47.6	35.7	23.5	19.04
Marbach	42.8	23.8	19.08	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF WÜRTEMBERG—continued.				
District of Neckar—Continued.				
Upper amts districts—Continued	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Maulbronn	42.8	23.5	23.8	14.28
Neckarsulm	42.8	23.5	19.04	14.28
(Average daily wages for workmen: 14.28, 23.8, 38, 52.3, and 80.92 cents.)				
Town of Stuttgart	52.3	33.3	23.5	16.6
Upper amts districts:				
Stuttgart	47.6	35.7	23.5	19.04
Vaihingen	35.7	28.5	23.5	16.6
Waiblingen	42.8	28.5	19.04	14.28
Weinsberg	35.2	23.5	23.8	19.04
District of Schwarzwald.				
Upper amts districts:				
Bolingen—				
Bolingen, Burgfelden, Dürrwangen, Endingen, Engstlatt, Erlaheim, Erzingen, Frommau, Geislingen, Heselwangen, Hassingen, Laufen, Stockhausen, Streichen, Thünügen, Underdidigsheim, Waldstetten, Weilheim, and Zillhausen	28.5	19.04	14.28	8.3
Bitz	28.5	19.04	11.9	5.95
Ebingen	42.8	26.18	19.04	14.28
Onstmettingen	28.5	19.04	11.9	5.95
Thailfingen, Pfeflingen, and Truchtelfingen	28.5	19.04	14.28	8.3
Winterlingen	28.5	16.66	11.9	5.95
Calw	47.6	33.3	28.5	21.42
Freudenstadt	40.4	26.18	23.8	19.04
Herrenberg	38	28.5	31	23.8
Horb—				
District of Horb	35.7	26.18	19.04	16.66
Municipality of Horb	38	26.18	19.04	19.04
Factory of Mühlen	40.4	23.8	23.8	14.28
Nagold	35.7	23.8	21.42	17.85
Neuenburg	47.6	28.5	23.8	19.04
Nürtingen	47.6	28.5	23.8	19.04
Tutlingen	31	19.04	19.04	19.04
Trassingen	35.7	17.85	17.85	17.85
Urach	38	28.5	23.8	19.04
(Average daily wages for workmen: 83.30, 65.45, 53.55, 41.6, 29.6, and 17.85 cents.)				
District of Tagst.				
Upper amts districts:				
Aalden	38	23.8	11.9	11.9
Krailsheim	35.7	23.8	14.28	14.28
Ellwangen	35.7	23.8	19.04	14.28
Gaildorf	33.3	21.42	16.66	11.9
Gerabronn	35.7	23.8	19.04	14.28
Town of Gmünd	42.4	33.3	19.04	11.9
Other part	38	28.5	19.04	11.9
Hall	38	28.5	19.04	19.04
Heidenheim	38	26.18	19.04	19.04
Künzelsau	35.7	26.18	16.66	14.28
Mergentheim	38	23.8	19.04	14.28
Neresheim	28.5	21.42	11.9	9.42
Oehringen	47.6	38	38	28.5
Schorndorf	42.4	21.42	28.5	14.28
Welsheim	35.7	23.8	19.04	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
KINGDOM OF WÜRTEMBERG—continued.				
District of Donau.				
Upper amts districts:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bieberach	38	23.8	23.8	16.66
Town of Bieberach	42.8	28.5	23.8	16.66
Ravensburg	33.3	19.04	14.28	11.9
(Average daily wages for workmen: 47.6, 35.7, and 19.04 cents.)				
Riedlingen	31	21.42	19.04	16.66
(Average daily wages for workmen: 40.4, 28.5, and 20.19 cents.)				
Saalgau	38	21.42	23.8	16.66
(Average daily wages for workmen: 47.6, 35.7, and 23.8 cents.)				
Tettnang	40.4	27.37	27.37	19.04
(Average daily wages for workmen: 47.6, 28.5, and 19.04 cents.)				
Ulm	59.5	33.3	23.8	16.66
(Average daily wages for workmen: 47.6, 33.3, and 23.8 cents.)				
Waldsee	35.7	23.8	19.04	14.28
(Average daily wages for workmen: 47.6, 28.5, and 19.04 cents.)				
Wangen	40.4	23.8	19.04	14.28
(Average daily wages for workmen: 47.6, 35.7, and 23.8 cents.)				
GRAND DUCHY OF BADEN.				
Amts districts:				
Achern—				
Town of Achern	47.6	28.5	23.8	19.04
Other part	42.8	28.5	23.8	19.04
Adelsheim	35.7	23.8	21.42	16.66
Baden (except the town of Baden)	40.4	26.18	23.8	21.42
Town of Baden	47.6	35.7	23.8	21.42
Bonndorf	42.8	28.5	19.04	14.28
Breisach	35.7	23.8	23.8	19.04
Bretten	41.59	31	28.5	21.42
Bruchsaal	35.7	28.5	23.5	16.66
Buchen	35.7	26.18	19.04	11.9
Bühl	40.4	28.5	23.8	19.04
Donaueschingen	42.8	28.5	19.04	14.28
Durlach—				
Town of Durlach	47.6	28.5	23.8	19.04
Land district of Durlach	40.4	28.5	23.8	19.04
Eberbach	40.4	23.8	23.8	19.04
Emmendingen	40.4	31	23.8	21.42
Engen	42.8	26.18	23.8	19.04
Eppingen	35.7	28.5	19.04	14.28
Ettenheim	38	28.5	19.04	14.28
Ettlingen—				
Town of Ettlingen	42.8	28.5	23.8	19.04
Land district of Ettlingen	38	28.5	23.8	19.04
Freiburg—				
Town of Freiburg	54.7	31	31	21.42
Land district of Freiburg	42.8	28.5	26.18	21.42
Heidelberg—				
Town of Heidelberg	47.6	33.3	28.5	23.8
Altenbach, Altendorf, Brombach, Heddesbach, Heiligkreuzsteinach, Lempenheim, Schönau, and Wilhelmsfeld	38	23.8	20.13	17.85
Bammenthal, Dilsberg, Gaiberg, Gauangelloch, Kleingemünd, Mauer, Meckesheim, Mönchzell, Muckenloch, and [illegible]	47.6	35.7	31	23.8
Land district of Heidelberg	41.6	31	26.98	21.42
Säckingen	42.8	23.8	19.04	14.28
St. Blasien	42.8	23.8	19.04	14.28
Schänau	47.6	29.6	23.8	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF BADEN—continued.				
Amts districts—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Schofheim	47.6	33.3	29.6	23.8
Schwetzingen	42.8	33.3	23.8	21.42
Sinsheim	38	28.5	23.8	19.04
Staufen	47.6	28.5	23.8	23.8
Stockach	38	23.8	19.04	14.28
Tauberbischofsheim	38	31	28.5	23.8
Triberg—				
Triberg, Hemberg, Niederwassor, and Schonach	47.6	28.5	19.04	16.66
Furtwangen, Gütenbach, Neukirch, and Schönwald	42.8	28.5	19.04	16.66
Gremmelsbach, Reichenbach, Rohrhardsberg, and Thannenbronn	38	23.8	19.04	10.66
GRAND DUCHY OF HESSE.				
Province of Starkenburg.				
Districts:				
Bensheim—				
Municipalities of Alsbach, Auerbach, Balkhausen, Bensheim, Biblis, Bickenbach, Bobstadt, Bürstadt, Fehlheim, Gross Hausen, Gross Rohrheim, Hähnlein, Hochstädten, Hofheim, Ingenheim, Klein Hausen, Lampertheim with Hüttenfeld, Langwaden, Lorsch, Oberbeerbach, Schmalbeerbach, Stettbach, Nordheim, Rodau, Schwanheim, Seeheim, Wattenheim, and Zwingenberg	38	28.5	23.5	19.04
Other part	33.3	23.8	21.42	19.04
Darmstadt—				
Towns:				
Darmstadt	47.6	28.5	21.42	17.85
Children under 14 years	....	....	17.85	17.85
Eberstadt	42.8	26.18	19.04	17.85
Children under 14 years	....	....	7.14	7.14
Pfungstadt	42.8	26.18	19.04	14.28
Children under 14 years	....	....	7.14	7.14
Municipalities:				
Arnheilgen	42.8	26.18	26.18	19.04
Children under 14 years	....	....	14.28	14.28
Erzhausen (children under 14 years)	....	....	7.14	7.14
Other parts	33.3	23.8	19.04	14.28
Offenbach—				
Town of Offenbach	47.6	28.5	23.8	19.04
Municipalities—				
Bieber	42.8	21.42	19.04	11.9
Bürgel	40.4	23.8	16.66	14.28
Dietesheim	42.8	28.5	14.28	11.9
Dietzenbach	28.5	19.04	11.9	11.9
Hain zur-Dreieich, with Philippseich	40.4	23.8	23.8	19.04
Dudenhofen	35.7	23.8	23.8	19.04
Egelsbach, with Beyerseich	40.4	23.8	23.8	16.66
Froschhausen	35.7	23.8	23.8	16.66
Götzenhain	35.7	23.8	23.8	16.66
Gross Steinheim	35.7	23.8	23.8	16.66
Hainhausen	35.7	31	26.18	23.8
Hainstadt	40.4	23.8	23.8	16.6
Hausen	40.4	28.5	11.9	11.9
Heusenstamm	47.6	28.5	23.8	19.04
Jugenheim	35.7	28.5	23.8	19.04
Klein Anheim	35.7	23.8	23.8	16.66

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF HESSE—continued.				
Province of Starkenburg—Continued.				
Districts—Continued.				
Offenbach—Continued.				
Municipalities—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Klein Krotzenburg	35.7	23.8	23.8	17.85
Klein Welzheim	28.5	21.42	21.42	11.9
Lämmerspiel	35.7	35.7	23.8	19.04
Langen	47.6	23.8	11.9	11.9
Mainflingen	28.5	21.42	11.9	11.9
Mühlheim	35.7	23.8	14.28	11.9
Neu-Isenburg	47.6	23.8	11.9	11.9
Oberthausen	40.4	23.8	11.9	11.9
Offenthal	38	26.18	26.18	19.04
Rembrücken	47.6	35.7	23.8	21.42
Rumpenheim	40.4	28.5	35.7	28.5
Seligenstadt	35.7	28.5	35.7	28.5
Sprendlingen	35.7	19.04	19.04	14.28
Steinbach	35.7	23.8	23.8	11.9
Weisskirchen	40.4	28.5	28.5	23.8
Zollhamen	38	38	26.18	26.18
Province of Ober-Hessen.				
Districts:				
Alsfeld—				
Municipalities:				
Alsfeld	35.7	28.5	16.66	11.9
Altenburg	35.7	28.5	23.8	19.04
Angenrod	31	21.42	19.04	9.42
Appenrod	28.5	19.04	16.66	11.9
Arnsheim	31	21.42	19.04	11.9
Atzenhain	33.3	21.42	23.8	14.28
Bernsburg	31	19.04	16.66	9.42
Bernsfeld	28.5	19.04	19.04	11.9
Bieben	35.7	23.8	23.8	19.04
Billertshausen	28.5	21.42	19.04	9.42
Bleidenrad	28.5	23.8	23.8	14.28
Brauerschwend	33.3	19.04	16.66	9.42
Büssfeld	28.5	19.04	19.04	9.42
Gemünden	31	19.04	19.04	9.42
Dannenrod	28.5	19.04	16.66	11.9
Deckenbach	35.7	23.8	19.04	14.28
Ehringshausen	35.7	23.8	23.8	16.66
Eifa	28.5	19.04	19.04	11.9
Elbenrod	35.7	23.8	16.66	11.9
Elpenrod	35.7	23.8	16.66	11.9
Erbenhausen	31	23.8	16.66	11.9
Ermenrod	31	21.42	19.04	11.9
Eudorf	35.7	23.8	16.66	14.28
Eulersdorf	28.5	19.04	16.66	11.9
Fischbach	33.3	23.8	16.66	14.28
Flensingen	33.3	21.42	19.04	14.28
Gleimenhain	35.7	23.8	23.8	14.28
Gontershausen	35.7	23.8	19.04	14.28
Grebenau	28.5	19.04	19.04	14.28
Grosse Fulda	35.7	23.8	23.8	19.04
Haarhausen	31	21.42	19.04	14.28
Hainbach	35.7	21.42	23.8	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF HESSE—continued.				
Province of Ober-Hessen—Continued.				
Districts—Continued.				
Alsfeld—Continued.				
Municipalities—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Heidelbach	31	19.04	19.04	11.9
Hemmertshausen	28.5	19.04	19.04	11.9
Hergersdorf	35.7	23.8	23.8	11.9
Höingen	35.7	23.8	19.04	14.28
Hamberg	35.7	21.42	19.04	11.9
Hopfgarten	35.7	23.8	23.8	19.04
Ilsdorf	28.5	19.04	16.66	9.42
Kestrich	35.7	23.8	23.8	19.04
Kirschgarten	28.5	19.04	19.04	14.28
Kirtorf	28.5	19.04	19.04	11.9
Lehnheim	28.5	19.04	19.04	11.9
Lehrbach	28.5	19.04	19.04	11.9
Leusel	31	21.42	19.04	9.42
Liederbach	33.3	19.04	16.66	11.9
Maulbach	35.7	23.8	19.04	14.28
Merlau	28.5	23.8	16.66	14.28
Münch-Leusel	28.5	23.8	16.66	14.28
Nieder-Breidenbach	31	23.8	19.04	14.28
Ober-Ohmen	31	21.42	19.04	14.28
Otterbach	28.5	21.42	19.04	14.28
Rainrod	35.7	23.8	19.04	11.9
Ruppertenrod	35.7	23.8	19.04	14.28
Schwabenrod	35.7	23.8	19.04	14.28
Schwarz	31	19.04	21.42	11.9
Storndorf	33.3	23.04	23.8	16.66
Udenhausen	31	19.06	21.42	9.42
Wahlen	28.5	21.42	19.04	11.9
Wallersdorf	35.7	19.04	19.04	14.28
Windhausen	28.5	21.42	21.42	11.9
Zeilbach	35.7	23.8	19.04	14.28
Zell	28.5	21.42	21.42	16.66
Amts district of Büdingen	35.7	23.8	19.04	16.66
Town of Frededberg	47.6	26.5	23.8	16.66
Rüddinghausen, Saasen, Bollnbach, Veitsberg, Wirberg, Stangenrod, Stockhausen, Weikartshain, and Wettershein	34.49	21.42	19.04	14.28
Other parts	35.7	22.5	19.04	16.66
Lauterbach	35.7	23.5	17.85	17.85
Schotten—				
Municipality of Schotten	35.7	29.69	23.8	19.04
Other part	33.3	23.8	23.8	16.66
Province of Rhein Hessen.				
Amts districts:				
Alzey	38	23.8	23.8	16.66
Bingen—				
Municipalities of Bingen, Büdesheim, Dietersheim, Frei Weinheim, Gaulsheim, Gensingen, Kempten, Nieder Ingelheim, and Ober Ingelheim	40.4	23.8	23.8	16.66
Other part	35.7	23.8	23.8	16.66
Mentz—				
Town of Mentz	52.3	28.5	26.18	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF HESSE—continued.				
Province of Rhein-Hessen—Continued.				
Amts districts—Continued.				
Mentz—Continued.				
Municipalities:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bretzenheim, Budenheim, Drais, Finthen, Gansenheim, Hechtsheim, Kastel, Kostheim, Mombach, Weisenau, and Laubenheim	47.6	23.8	23.8	19.04
Ebersheim, Essenheim, Ganbischofsheim, Harxheim, Klein Winternheim, Marienbron, Nieder-Olm, Ober-Olm, Sörgenloch, Stadecken, and Zornheim	38	23.8	21.42	19.04
Worms:				
Town of Worms	47.6	23.8	23.8	16.66
Municipalities of Herrnsheim, Hochheim, Ibersheim, Leiselheim, Neuhausen, Pfeddersheim, Pfiffligheim, Rhein-Dürkheim, Weinsheim, and Wiesoppenheim	40.4	23.8	23.8	16.66
Other parts	35.7	23.8	23.8	16.66
GRAND DUCHY OF MECKLENBURG SCHWERIN.				
Domanium.				
Amts districts:				
Boitzenburg	33.3	19.04	16.66	16.66
Buckow	31	19.04	19.04	19.04
Bützow	38	23.8	11.9	11.9
Crivitz	35.7	23.8	11.9	11.9
Dargun	35.7	23.8	19.04	19.04
Doberan	40.4	23.8	23.8	23.8
Dömitz	35.7	28.5	23.8	23.8
Gadebusch	35.7	28.5	23.8	19.04
Grabow	35.7	26.18	19.04	19.04
Grevismühlen	35.7	21.42	19.04	19.04
Güstrow	47.6	31	23.8	23.8
Hagenow	33.3	21.42	19.04	19.04
Lübtheen	35.7	21.42	19.04	19.04
Lübz	33.3	23.8	19.04	16.66
Neustadt	33.3	23.8	19.04	16.66
Ribnitz	47.6	33.3	26.18	26.18
Schwaan	47.6	19.04	19.04	19.04
Schwerin	40.4	23.8	14.28	14.28
Town of Wittenburg	35.7	21.42	19.04	16.66
GRAND DUCHY OF SAXE-WEIMAR.				
Districts:				
Weimar—				
Towns:				
Weimar and Ilmenau	42.4	23.8	19.04	14.28
Blankenheim	38	23.8	19.04	14.28
Other part	35.7	23.8	19.04	14.28
Apolda	35.7	23.8	21.42	19.04
Eisenach	33.3	21.42	19.04	16.66
Dermbach	31	21.42	19.04	16.66
Neustadt-an-der-Orla	35.7	23.8	19.04	14.28
GRAND DUCHY OF MECKLENBURG-STRELITZ.				
Duchy of Strelitz.				
Cabinet court	42.8	19.04	9.42	9.42
Domanium:				
Court of Feldberg	40.4	21.42	14.28	14.28
Village of Feldberg	40.4	21.42	14.28	14.28

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF MECKLENBURG-STRELITZ—continued.				
Duchy of Strelitz—Continued.				
Domanium—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Court of Mirow	35.7	23.8	14.28	11.9
Village of Mirow	29.7	19.04	14.28	11.9
Court of Stargard	47.6	23.8	19.04	19.04
Court of Strelitz	40.4	16.66	11.9	11.9
District of Fürstenberg	35.7	23.8	23.8	23.8
Knighthood farms	40.4	28.5	23.8	19.04
Towns:				
Nue-Strelitz	38	23.8	19.04	19.04
Neu-Brandenburg	38	26.18	19.04	14.28
Friedland	35.7	28.5	19.04	14.28
Woldegk	35.7	19.04	19.04	18.9
Strelitz	35.7	19.04	19.04	16.66
Fürstenberg	35.7	34.8	23.8	23.8
Wesenberg	28.5	19.04	14.28	14.28
Stargard	35.7	26.18	16.66	14.28
Principality of Ratzeburg.				
Domanium	40.4	28.5	23.8	21.42
Town of Schönberg	40.4	28.5	19.04	16.66
Alodial farms:				
Dodow	35.7	23.8	19.04	16.66
Torisdorf	40.4	26.18	19.04	14.28
GRAND DUCHY OF OLDENBURG.				
Duchy of Oldenburg.				
Towns:				
Oldenburg	47.6	35.7	21.42	21.42
Varel	47.6	35.7	21.42	21.42
Tever	41.6	29.7	23.8	17.85
Courts:				
Oldenburg	41.6	29.7	23.8	19.04
Westerstede	35.7	28.5	23.8	21.42
Varel	38	23.8	23.8	23.8
Tever—				
Municipalities:				
Heppens, Neuende, Bünde, Aumm, and Sandel	52.3	35.7	28.5	23.8
Cleoen and Sandel	41.6	26.18	23.5	17.85
Other part	47.6	28.5	23.5	21.42
Butzadingen	47.6	33.3	23.5	19.04
Brake	47.6	33.3	23.5	19.04
Elsfleth	47.6	33.3	23.5	19.04
Delmenhorst	47.6	29.7	23.5	19.04
Other part	35.7	23.8	23.5	19.04
Amts districts:				
Wildeshausen	35.7	23.8	23.5	19.04
Vechta	35.7	28.5	23.5	19.04
Kloppenburg	35.7	28.5	23.5	19.04
Friesoythe	31	19.04	19.04	14.28
Principality of Birkenfeld.				
Burgomasteries:				
Birkenfeld	35.7	23.8	23.8	19.04
Niederbrombach	33.3	23.8	23.8	19.04
Oberstein (except the town of Oberstein)	35.7	23.8	23.8	19.04
Herrstein	35.7	23.8	23.8	19.04
Nohfelden	33.3	23.8	23.8	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
GRAND DUCHY OF OLDENBURG—continued.				
Principality of Birkenfeld—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Whole district	38	26.18	19.04	16.66
GRAND DUCHY OF BRUNSWICK.				
Town of Brunswick	47.6	35.7	23.8	23.8
Riddaghausen, Dibbesdorf, Flechtorf, Gliesmarode, Lehndorf, Lehre, Mascherode, Oelpor, Querum, Rautheim, Rühme, Rüningen, Schandeloh, Schapen, Klein Stöckheim, and Veltenhof	47.6	29.7	29.7	19.04
Districts:				
Bortfeld, Broitzem, Oelsburg, Neu-Oelsburg, Vechelde, Vechelade, Freiistedt, Lelm, and Sunstedt	47.6	23.8	23.8	19.04
Municipalities:				
Warburg and Wolsdorf	47.6	21.42	23.8	19.04
Süpplingen	47.6	21.42	21.42	16.66
Boimstorf	47.6	19.04	19.04	16.66
Scheppan	47.6	19.04	21.42	16.66
Königslutter	47.6	23.8	23.8	16.66
Neuhaus	29.7	16.66	16.66	14.28
Vorsfelde	35.7	23.8	14.28	14.28
Reislingen	35.7	16.6	16.66	14.28
Bahrdorf	35.7	23.8	19.04	19.04
Vorsfeld	35.7	23.8	23.8	17.85
Colvörde	35.7	23.8	17.85	11.9
Towns of Holzminden and Stadtoldendorf	35.7	21.42	16.66	14.28
Other parts	35.7	21.42	16.66	14.28
Gandersheim	35.7	23.8	17.85	11.9
Blankenburg	35.7	19.04	19.04	14.28
DUCHY OF SAXE-MEININGEN.				
Townships:				
Meiningen	31	21.42	16.66	14.28
Hildburghausen	31	23.8	19.04	16.66
Sonneberg	38	26.18	23.8	19.04
Saalfeld	45.2	28.5	21.42	19.04
DUCHY OF SAXE-ALTENBURG.				
East district.				
Towns:				
Altenburg	42.4	23.8	21.42	17.85
Gössnitz	42.8	28.5	23.8	19.04
Luka	40.12	23.5	15.71	15.71
Meuselwitz	42.8	26.18	23.8	19.04
Ronneburg	35.7	28.5	23.8	19.04
Schmölln	42.8	28.5	23.8	19.04
Amts districts:				
Altkirchen	35.7	23.8	11.9	11.9
Braunichswalde	33.3	19.04	14.28	14.28
Breitenheim—				
Breitenheim	35.7	17.75	16.66	16.66
Brünaurod and Prössdorf	35.7	19.04	17.85	17.85
Mumsdorf	33.3	19.04	17.85	17.85
Schnauderhainichen	38	19.04	17.85	17.85
Teuriz	42.8	23.8	19.04	19.04
Ehrenhain	35.7	17.85	17.85	11.9
Gieba	42.8	28.5	28.5	28.5
Grossenstein	35.7	23.8	14.28	14.28
Gross Stöbnitz	35.7	23.8	14.28	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
DUCHY OF SAXE-ALTENBURG—continued.				
East district—Continued.				
Amts districts—Continued.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Gross Stechan	35.7	23.8	19.04	19.04
Lumpzeg	28.5	19.04	14.28	14.28
Gessen (except Friedrichshaide)	35.7	23.8	14.28	14.28
Oberkossa	35.7	23.8	11.9	11.9
Lutschütz	35.7	21.42	19.04	14.28
Schwanditz	41.7	22.84	19.04	11.9
Dölzig, Tegkwitz, Dobraschütz, and Breesen	40.4	20.23	14.28	14.28
Lossen	39.27	19.04	14.28	14.28
Romschütz	38	21.42	16.66	16.66
Dobitschen	35.7	19.04	14.28	14.28
Mehna	35.7	20.23	13.09	13.09
Mencha	38	19.04	11.9	11.9
Göllnitz	41.7	23.8	19.04	19.04
Rolika, Pontewitz, Prehna, and Zschöppentz	38	21.42	11.9	11.9
Kertschütz, Rodamenschel, and Zwetchen	42.8	23.8	14.28	14.28
Kreutzen and Misselwsy	41.7	16.66	16.66	16.66
Godern	35.7	21.42	19.04	19.04
Starkenberg	41.7	19.04	14.28	14.28
Kraasa	35.7	19.04	14.28	14.28
Treben	33.3	21.42	19.04	19.04
Weissbach	40.4	21.42	11.9	11.9
Windischleuba	35.7	19.04	19.04	14.28
Wintersdorf	38	28.5	23.8	19.04
Frohnsdorf	35.7	21.42	14.28	14.28
West district.				
Town of Eisenberg	40.4	23.8	23.8	19.04
Other part	35.7	23.8	23.8	19.04
Children from 12 to 14 years	....	....	4.76	4.76
DUCHY OF SAXE-COBURG-GOTHA.				
Towns:				
Coburg and Gotha	33.3	21.42	21.42	16.66
Neustadt, Rodach, Königsburg, Ohrdruf, and Waltershausen	28.5	19.04	19.04	14.28
Other part of Coberg	23.8	16.66	16.66	11.9
Other part of Gotha	28.5	19.04	19.04	14.28
DUCHY OF ANHALT.				
Towns of Dessau, Cöthen, Zerbst, Bernburg, Rosslau, Leopoldshall, Hecklingen, and Gänsefurt	42.8	28.5	28.5	19.04
Other part	35.7	23.8	23.5	16.66
PRINCIPALITY OF SCHWARZBURG-SONDERSHAUSEN.				
Districts:				
Arnstadt—				
Arnstadt	38	21.42	16.66	16.66
Other part	35.7	23.8	16.66	16.66
Gehren	35.7	23.8	16.66	16.66
Sonderhausen	35.7	21.42	16.66	14.28
PRINCIPALITY OF SCHWARZBURG-RUDOLSTADT.				
District of Rudolstadt:				
Town of Rudolstadt	47.6	35.7	28.5	23.8
Municipalities of Cumbach, Eichfeld, Kirchhasel, Pflanzwirbach, Schaala, Schwarza, Teichröda, Volkstedt, and Unterwirbach	42.8	26.18	23.8	19.04
Other parts	35.7	23.8	23.8	16.66

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
PRINCIPALITY OF SCHWARZBURG-RUDOLSTADT—continued.				
Ilm:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Town of Ilm	42.8	26.18	23.8	19.04
Other part	35.7	23.8	17.85	14.28
Leutenberg:				
Towns of Leutenberg, Arnsbach, Eichicht, Hockeroda, Hamma, Könitz, Reschwitz, and Underlognitz	42.8	26.18	23.8	19.04
Other part	38	23.8	23.8	16.66
Districts:				
Königsee	35.7	23.8	23.8	16.66
Frankenhausen—				
Frankenhausen	26.18	19.04	19.04	16.66
Schlotheim:				
Schlotheim	23.8	16.66	11.9	11.9
Mehrstedt	23.8	17.85	17.85	14.28
Straussberg	26.18	19.04	19.04	16.66
PRINCIPALITIES OF WALDECK AND PYRMONT.				
District of the principalities	35.7	23.8	19.04	14.28
PRINCIPALITY OF REUSS-GREITZ.				
Towns:				
Greitz	36.89	26.18	22.59	16.66
Zeulenroda	33.3	26.18	16.66	14.28
Farm districts of Bursk, Crispendorf, Dörflas, Friesau, Grochwitz, Mönehgrim, Möschtitz, Neundorf, Pahnstangen, Plothen, Rauschengesees, Remptendorf, Röppisch, and Zoppoten	28.5	16.66	11.9	9.42
Arnsgrün, Pöllwitz, Schönbrunn, Wolfshain, Leiningen, Büna, Dobia, Eubenberg, Gablau, Bernsgrün, and Fortstan	28.5	16.66	14.28	11.9
Fraureuth	35.7	26.18	19.04	14.28
Villages of Dosslitz, Nitschareuth, Tschirma, Neugernsdorf, Altgernsdorf, Wildetanbe, Kirchdorf, Lunzig, Hain, Hainsberg, Kauern, Mehla, Brückla, Hohendlsen, Neudörfel, Kleinreinsdorf, Sorge-Settendorf	35.7	21.42	14.28	11.9
Palace of Burgk and the forests in Burgk	28.5	17.85	11.9	9.42
Forests in the other parts of the country	35.7	21.42	16.66	11.9
PRINCIPALITY OF REUSS-SCHLEITZ.				
Gera	47.6	26.18	23.8	16.66
Altengesees	33.3	23.8	21.42	16.66
Blankenstein	31	23.8	21.42	21.42
Dürrenbach	33.3	23.8	16.66	16.66
Ebersdorf	33.3	23.8	21.42	16.66
Eliasbrunn	33.3	23.8	21.42	16.66
Gahma	34.4	23.8	14.28	14.28
Grumbach	33.3	23.8	33.3	21.42
Harra	31	23.8	21.42	16.66
Heinersdorf	33.3	28.5	21.42	16.66
Helmsgrün	33.3	21.42	21.42	16.66
Karolinenthal	33.3	23.8	21.42	16.66
Kiessling	26.18	16.66	19.04	14.28
Lichtenbrunn	33.3	23.8	21.42	16.66
Lothra	40.4	26.18	33.3	21.42
Lückenmühle	33.3	28.5	21.42	19.04
Neundorf	33.3	23.5	21.42	21.42
Oberlemnitz	23.8	17.85	13.9	10.6
Ossla	33.3	23.8	21.42	16.66
Pöritzsch	28.5	17.85	15.47	10.6
Ruppertsdorf	26.18	21.42	16.66	11.9

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female	Male.	Female.
PRINCIPALITY OF REUSS-SCHLEITZ—Continued.	*Cents.*	*Cents*	*Cents.*	*Cents.*
Saaldorf	33.3	19.42	19.04	14.28
Schlegel	39.19	23.8	21.42	14.28
Schönbrunn	31	23.8	17.85	16.66
Seibis	35.7	28.5	26.18	21.42
Thierbach	26.18	21.42	11.9	11.9
Thimmendorf	31	23.8	21.42	16.66
Titschendorf	38	26.18	21.42	16.66
Unterlemnitz	33.3	17.85	19.04	13
Weitisberga	33.3	23.8	21.42	16.66
Wurzbach	48.7	29.6	33.3	20.2
Blintendorf	28.5	19.04	26.18	14.28
Dobareuth	24.9	17.85	14.28	11.9
Frössen	22.5	15.4	16.66	13
Gebersretuh	33.3	21.42	14.28	14.28
Göritz	33.3	14.28	21.42	11.9
Göttengrün	28.5	19.04	14.28	11.9
Künsorf	28.5	19.04	21.42	14.28
Langgrün	28.5	19.04	19.04	14.28
Lerchenhügel	28.5	19.04	21.42	14.28
Mödlareuth	28.5	19.04	19.04	14.28
Pirk	28.5	19.04	21.42	14.28
Pottiga	28.5	23.8	17.85	14.28
Rothenacker	33.3	26.18	26.18	21.42
Seubtendorf	28.5	19.04	19.04	16.66
Spielmes	28.5	19.04	19.04	14.28
Stelzen	33.3	19.04	19.04	14.28
Ullersreuth	28.5	19.04	16.66	14.28
Venzka	28.5	19.04	10.5	10.3
PRINCIPALITY OF SCHAUMBURG-LIPPE.				
Towns:				
Bückeburg	35.7	28.5	23.8	17.85
Stadthagen	35.7	28.5	23.8	23.8
Townships:				
Bückeburg and Arensburg	33.3	23.8	17.85	14.28
Stadthagen and Hagenburg	33.3	23.8	20.2	17.85
PRINCIPALITY OF LIPPE.				
Towns:				
Detmold	33.3	23.8	23.8	21.42
Lemgo	41.4	29.7	26.18	21.42
Salzuflen	35.7	23.8	19.04	19.04
Blomberg	35.7	23.8	23.8	19.04
Horn	35.7	23.8	23.8	17.85
Barntrup	31	19.04	19.04	16.66
Lage	35.7	23.8	17.85	17.85
Brake—				
Courts:				
Brake	29.7	19.04	16.66	11.9
Hohenhausen	29.7	23.8	14.28	11.9
Varenholz	29.7	23.8	19.04	14.28
Sternberg and Barntrup	23.8	17.85	16.66	11.9
Blomberg—				
Amts districts:				
Blomberg	33.3	23.8	16.66	14.28
Schieder	33.3	19.04	16.66	11.9
Schwalenberg	26.18	19.04	19.04	14.28
Lipperode Cappel	35.7	23.8	14.28	14.28

Table showing the daily wages of agricultural laborers in Germany—**Continued.**

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
FREE HANSE TOWN OF LÜBECK.				
Towns:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bremen	52.3	38	29.7	19.04
Travemünde	47.6	38	23.8	19.04
Land municipalities	35.7	19.04	19.04	11.9
FREE HANSE TOWN OF BREMEN.				
Land municipality of Bremen	47.6	28.5	28.5	28.5
Towns:				
Bremen	71.4	41.4	29.7	23.8
Brunerhaven	71.4	47.6	35.7	35.7
Vegesack	47.6	35.7	23.8	17.85
FREE HANSE TOWN OF HAMBURG.				
Towns:				
Hamburg	71.4	47.6	23.8	23.8
Borstel, Fuhlsdorf, Langenhorn, Alsterdorf, Ohlsdorf, and Klein Borstel	59	28.5	23.8	23.8
Farmsen, Volksdorf, Wohldorf, Ohlstedt, Gross Hausdorf, and Schmalenbeck	42.8	28.5	19.04	19.04
Marschlande	59.5	35.7	23.8	23.8
Bützbüttel	42.8	28.5	23.8	23.8
Stada Bergedorf	59.5	35.7	23.8	23.8
Other part	42.8	28.5	19.04	19.04
ALSACE-LORRAINE.				
Lower Alsace.				
Township of Strassburg	52.3	28.5	23.8	15.47
Land district of Strassburg	47.6	38	26.18	21.42
Districts:				
Erstein	42.8	33.3	26.18	21.42
Hagenau	42.8	33.3	26.18	21.42
Molsheim—				
Cantons:				
Molsheim and Wasselnheim	52.3	33.3	26.18	21.42
Rosheim and Schirmeck	42.8	31	26.18	21.42
Saales	33.3	26.18	16.66	11.9
Townships:				
Schlettstadt—				
Cantons:				
Weiler	42.8	28.5	28.5	19.04
Barr and Schlettstadt	47.6	33.3	33.3	23.8
Wissembourg	42.8	33.3	28.5	23.8
Zabern	42.8	34.5	23.5	19.04
Upper Alsace.				
Municipalities:				
Colmar, Gebweiler, Mülhausen, Münster, Rappoltsweiler, Rufach, and Sulz	52.3	42.4	28.5	23.8
Markirch	52.3	28.5	28.5	23.8
Altkirch, Ammerschweier, Andolsheim, Beblenheim, Dammerkirch, Dornach, Egisheim, Ensisheim, Grussenheim, Habsheim, Heiligkreuz, Harburg, Hüningen, Hunaweier, Iabsheim, Ingersheim, Isenheim, Kaiserberg, Kleuzheim, Lutterbach, Masmünster, Neudorf, Niederhergheim, Reichenweier, Rixheim, St. Amarin, St. Ludwig, Sennheim, Sierenz, Sigolsheim, Sulzmatt, Thann, Türkheim, Weier, and Wintzenheim	47.6	38	26.18	21.42
Other municipalities	42.8	35.7	23.8	19.04

Table showing the daily wages of agricultural laborers in Germany—Continued.

District.	Adults.		Children.	
	Male.	Female.	Male.	Female.
ALSACE-LORRAINE—continued.				
Lorraine.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Township of Metz	59.8	42.8	23.8	19.04
Land district of Metz	47.6	35.7	28.5	23.8
Districts:				
Bolchen	42.8	28.5	23.5	19.04
Salins	47.6	28.5	23.5	19.04
Diedenhofen	47.6	35.7	28.5	23.8
Forbach	42.8	35.7	28.5	23.8
Saarburg	42.8	28.5	23.8	19.04
Saargemünd—				
Town of Saargemünd	47.6	28.5	23.8	19.04
Other part	42.8	26.18	23.8	19.04

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, March 7, 1891.

SHEEP AND WOOL IN CHINA.

REPORT BY CONSUL-GENERAL LEONARD, OF SHANGHAI.

A report on the subject of sheep and wool products of China must necessarily be somewhat vague, owing to the absence of means of obtaining reliable information; but the following brief report, made in conformity with the Department's circular of instruction dated the 19th of September last, is respectfully submitted, in hopes that it will be of some value.

(1) Wool is obtained from the northern provinces of Shan-See, Shen-See, Chi-li, and Leao-Tong, the eastern provinces of Shan-Toong and Kiang-Soo, the western province of Se-Chuen, and the central provinces of Ho-Nan, Hoo-Pe, and Ngan-Hoe. Very little wool is known to come to Shanghai from the other provinces—Yun-Nan, Koei-Choo, Hoo-Nan, Kiang-See, Che-Kiang, Fo-Kien, and Qwang-Tong. The bulk of what is commercially known as China wool comes from Mongolia.

(2) Sheep are usually kept in flocks of from 500 to 2,000.

(3) Generally the wool is gathered by shearing; but in ball wool, which comes from Chi-li, the wool is combed with wide combs from the backs of the sheep and afterwards twisted up into balls. Rope wool is so called because it is made up in coils in the interior for transportation to seaboard. A bale weighs about 150 pounds avoirdupois.

(4) Wool is principally used in China in the manufacture of a coarse felt used for making shoes and hats.

The inhabitants of the northern provinces use sheepskins for clothing to a large extent.

(5) Northern wools are known commercially as ball, loose, rope, and lambs' wool. Wool from the province of Kiang-Soo is known as Woosie, which is the name of a district. Se-Chuen, Ho-Nan, and Hoo-Pe wools are designated by the name of the province from which they come. These names are the local commercial designations.

Until within a few years, the exportation of wool from China was trifling. The following table shows the amount exported, in piculs of 133⅓ pounds avoirdupois each, from Shanghai during the years 1880 to 1890:

Year.	Quantity.	Year.	Quantity.
	Piculs.		*Piculs.*
1880	5,923.43	1886	26,065.81
1881	7,277.51	1887	38,570.14
1882	8,699.17	1888	49,950.19
1883	13,742.54	1889	73,906.49
1884	19,889.63	1890	80,143.91
1885	24,344.88		

Together with this report I send specimens of the following wools: Ball, lambs', rope, loose, Woosie, Ho-nan, Se-Chuen, Hoo-Pe. The other inclosures are: A piece of coarse felt, such as usually comes around bales of furs, etc., shipped to Shanghai from the north; a small piece of felt, such as is used for shoe soles; a felt cap, best quality; a trade circular, dated January 16, 1891.*

J. A. LEONARD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Shanghai, February 1, 1891.

THE WATERWORKS OF BERLIN.

REPORT BY CONSUL-GENERAL EDWARDS.

The works on the upper Spree, which were erected by a private company, but which came into the possession of the city in 1873, used river water, which was cleansed by filtering before entering the pipes. It was, however, intended that the works erected on the Tegel Sea should use subterranean water, obtained from deep wells, with which the reservoirs and pipes could be supplied without filtering. But experiments made soon after these works were put into operation showed that the hope to obtain from the wells clean water fit for drinking and household purposes had been ill founded. Nevertheless, it was hard to decide that the system based on the Tegel works must be abandoned and a return made to open water courses and filtration. Accordingly, on January 26, 1882, the city council decided to build filters at Tegel and to use sea (lake) water instead of well water. When, in 1883, the extension of the Tegel works by the erection of seven vaulted filters was discussed, it was decided to experiment in regard to the quality of a mixture of well and filtered lake water. These experiments were confided to Professor Dr. Finkener, and, upon his finding the result unsatisfactory, the erection of the filters was agreed to. Thus the question as to whether river or well water should be used was decided in favor of the former, and it was shown that future extension of the waterworks must be in the basin of the River Spree, and not of the Havel.

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*Samples sent to the Department of Agriculture.

As it seemed possible that here suitable well water of good quality might be obtained, it was decided to appoint a commission which, with the assistance of geognostic, chemical, and hydrognostic specialists, should make borings and establish experimental stations on the Müggel and Long seas (lakes), above Cöpenick. The city council on November 29, 1883, appropriated the sum of 40,000 marks for the carrying out of these experiments. These experiments were extended at four stations from February, 1884, to the end of January, 1885. Each station was in uninterrupted operation for 3 months. The result was that the hope of obtaining good water in an easier manner than by filtration had to be abandoned. The commission reported in this sense, and the city council decided on March 8, 1886, to make no further attempt to obtain good well water.

For 7 years (1878 to 1886) the problem of the practicability of obtaining good well water was discussed, and various experiments were made; but finally it has been admitted as a fact that the country in the vicinity of Berlin is incapable of supplying a city of 1,500,000 inhabitants with clean water satisfactory in quantity and quality. As, therefore, the rivers Havel and Spree, even if their navigation be doubled, can spare sufficient water for this purpose, and as the imperial sanitary bureau in 1882 decided that, from a chemical standpoint, sand filtration gives the water of the Spree a satisfactory quality, the use of filtered water for the city of Berlin has been decided upon.

After the city council had rendered the decision of January 26, 1882, above mentioned, in regard to the first half of the Tegel works, which had been put into operation in the year 1877, the building of twelve vaulted filtering basins was at once commenced, and the same were put into operation in November, 1883. The total sand surface of these filters was 21,931 square metres, and the Tegel works were enabled to place at the disposal of the city of Berlin 43,200 cubic metres of water every 24 hours.

That this first half of the Tegel works, in connection with the old works at the Stralau gate, would not long be able to supply the needs of a constantly increasing population was reported to the city officials by the water commission in the year 1879; but the then undecided question in regard to the use of well or lake water delayed the completion of these works until the fall of 1886.

The fear of the water commission was not unfounded, for, in the middle of the summer of 1883, in the upper stories of houses there was such an inadequate supply of water that the magistracy was obliged to discontinue the use of water for public fountains and for the sprinkling of streets, squares, and gardens until the beginning of cooler weather. The weather, however, changed, and the use of water did not have to be limited. In the following year, however, on the 24th of July, the magistracy was obliged to issue an order requiring the most economical use of water for public purposes, and this order could not be raised until September 27.

The completed Tegel works were put into operation in March, 1888. They placed at the disposal of the city daily 86,400 cubic metres of water cleansed through sand filters.

If the city required—as from its rapid growth might soon be expected—an increased supply of water, it was seen that it would have to be sought from another source; in other words, that new waterworks would have to be erected, for the old works at the Stralau gate had long reached the limit of their capacity. Furthermore, the increase of factories above Berlin and the ever-increasing ship and steamer traffic on the upper Spree constantly increased the impurity of the water and the costs of filtration. Moreover, the population of the metropolis stood in danger of receiving water dangerous to health in the event of interruption of business or a defect in the works; consequently, it was decided to build new works on the Müggel Sea. These works and filtering establishments it was decided to locate on Müggel Sea, above the town of Friedrichshagen, and to send the purified water thence to the plateau north of Lichtenberg. Permission to take not more than 2 cubic metres of water per second from Müggel Sea was granted by the minister of public works on July 28, 1888. It was determined to give these works a daily capacity of delivering 172,800 cubic metres of water to the city of Berlin, though only half of the works were to be erected at once. The estimated cost was 20,000,000 marks. These Müggel and Tegel Sea works together will be able to supply to Berlin daily 259,200 cubic metres of water, which, at the present rate of use, will be sufficient for a population of 2,500,000.

In addition to the extension of the Tegel works during the period under report, force works were erected on the Tempelhof hill, near the brewery, and were put into operation in June, 1888. This had been rendered necessary by the growth of that part of the city on the high Kreuzberg, south of Bergmann street and right and left of Belle-Alliance street, whose houses, without such force works as those in Belfort street, could not have a sufficient supply of water in their upper stories, except through a very expensive increase of pressure in the water pipe.

Some time earlier the great increase of population in the high northern part of the city had rendered necessary a strengthening of machine force there. This had been foreseen, and the difficulty was removed by the erection of a new (the fourth) steam-engine.

Thus, up to the present date, the municipal waterworks have been able to supply the quantity of water required by the population of the city; and the new works, which, it is hoped, will be completed before the close of 1892, will remove all cause for anxiety in this respect for a long series of years.

For the good of the people, however, not only the quantity, but the quality, of the water must be considered. Since the impurities of the pipes by the water from the Tegel deep wells have been remedied, all cause for doubt in regard to the effect on health by the use of water supplied by the waterworks has been removed.

The quality is constantly watched by impartial officials, at present by the imperial sanitary department. Dr. Gustav Wolffshügel, in a report to the same covering the period from July, 1884, to April, 1885, said:

> Upon examination of water samples, in no case was Berlin pipe water found to have any injurious effect upon health, either from its chemical ingredients or from the microparasitic particles which it contained.

Professor Dr. Koch said in his report from June 1, 1885, to April 1, 1886:

> The bacteriologic inspection has been made, as heretofore, very carefully in the imperial sanitary department. The results are shown in the following table. A glance at the table shows that during the period of examination water from the Stralau, as well as the Tegel works, was entirely of satisfactory character.

The business results of the municipal waterworks in the period from April 1, 1882, to March 31, 1889, are shown in the inclosed table. It shows that during this period the population of the city lots supplied with water increased from 981,158 to 1,360,285, or about 38.64 per cent., and that the use of water grew from 22,596,522 cubic metres to 31,620,750 cubic metres, or about 39.98 per cent.

The annual use of water per head of population ranged from 63.57 litres to 71.55 litres, the average for the 7 years being 65.38 litres. In comparison with other large towns, this average is very low; but other circumstances must be borne in mind. First, in Berlin water is sold by measure, so that it is in the interest of the person who pays for the water (— landlord) to discover and check waste. Furthermore, the situation of the city—in the valley of the Spree, with the street level only 2 or 3 metres above the water level of the soaked sand diluvium—is such that water for factory and industrial purposes can be easily obtained at small cost on every lot in the lower zone of the pipe system of the municipal waterworks. This water can be raised at less cost per cubic metre to the small height necessary for ordinary factory and industrial purposes than would have to be paid to the municipal waterworks for a like quantity of water.

There are therefore a considerable number of small waterworks where the water is obtained from wells on private lots. Such water is used for feeding steam-boilers and for steam condensation. Of such private waterworks within the limits of the pipe system there were at the end of March, 1889, 606, and their number is constantly increasing. These, it is estimated, supply 66,807 cubic metres of water daily. The municipal waterworks supplied in the fiscal year ended March 31, 1889, on an average, 86,632 cubic metres daily. So that the average amount used daily was 153,439 cubic metres, of which 57 per cent. and 43 per cent., respectively, were supplied by municipal and by private waterworks. Hence the average used per head of population was, in 1888–'89, not 64.45 litres, but 113.07 litres.

The table, moreover, shows the total net receipts and outlays and the surpluses. In regard to the latter, it must be borne in mind that of the total quantity of water delivered generally in the city the percentage used for public purposes—for watering public parks and gardens, for public fountains and closets, for cleansing the canalization system, for sprinkling streets and suppressing fires—is delivered free of cost. It also shows the assets and liabilities of the municipal waterworks, as well as the financial condition of the same, at the close of each year from April 1, 1882, to March 31, 1889. This table also shows the total assessed value of the waterworks and the total loan debt. On March 31, 1889, the former was 39,320,265.51 marks and the latter 36,264,471.35 marks.

Table giving the statistics of the Berlin municipal waterworks.

Year ended March 31—	House connections.			Population.			
	Number.	Increase.		Average to each house connection.	Total for area supplied.	Increase.	
		Number.	Per cent.			Number.	Per cent.
1883	17,034	458	2.76	60.61	981,158	26,380	2.76
1884	17,654	620	3.63	60.61	1,065,705	84,547	8.61
1885	18,216	562	3.18	60.61	1,098,920	33,215	3.12
1886	18,659	443	2.43	60.61	1,126,012	27,092	2.47
1887	19,193	534	2.86	60.61	1,156,802	30,790	2.73
1888	19,755	582	3.03	66.93	1,316,312	159,510	13.79
1889	20,403	628	3.17	66.93	1,360,285	43,973	3.34

Year ended March 31—	Water consumption.					
	Total quantity during year.	Increase.		Average quantity per day.	Maximum used per day.	Quantity used daily per head of population.
		Quantity.	Per cent.			
	Cub. met.	*Cub. met.*		*Cub. met.*	*Cub. met.*	*Litres.*
1883	22,596,522	698,614	3.19	61,908	82,010	63.95
1884	24,453,100	1,856,578	8.21	66,812	99,384	63.57
1885	25,935,936	1,482,836	6.06	71,057	95,493	65.38
1886	26,175,912	239,976	0.93	71,715	100,302	64.07
1887	29,907,190	3,791,878	14.48	82,103	111,616	71.55
1888	30,877,360	909,570	3.04	84,364	119,215	64.68
1889	31,620,750	743,390	2.4	86,632	124,907	64.45

Year ended March 31—	Total receipts.	Total expenses.	Surplus.	Cost of producing 100 cubic metres of water.	Price received per 100 cubic metres of water.	Percentage of total amount supplied used free for public purposes.
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	
1883	4,277,062	3,136,677	1,140,385	13,881	18,928	7.58
1884	4,460,803	3,364,309	1,096,494	13,758	18,242	8.16
1885	4,654,236	3,757,427	896,809	14,487	17,945	7.46
1886	4,791,957	3,153,098	1,638,859	12,046	18,307	7.2
1887	5,192,501	3,210,090	1,982,411	10,712	17,327	9.3
1888	5,436,448	3,349,554	2,086,894	10,847	17,607	9.11
1889	5,501,493	3,424,375	2,077,118	10,029	17,398	9.37

Table giving the statistics of the Berlin municipal waterworks—Continued.

Year ended March 31—	Surplus.			
	Used for amortization of loans.	Used to cover reduction of value of works by use (wear and tear).	Total.	From loans up to date, used for improvements and extentions.
	Marks.	*Marks.*	*Marks.*	*Marks.*
1883	574,860	872,571.43	1,447,431.43	16,[illegible],022.32
1884	601,515	1,096,493.56	1,698,008.56	16,[illegible]5,022.32
1885	628,467	896,809.57	1,525,276.57	16,311,022.32
1886	656,733	500,000.00	1,156,733.00	16,311,022.32
1887	688,444	*100,000.00	2,430,714.47	17,311,022.32
1888	718,486	*100,000.00	2,428,087.37	17,585,322.32
1889	750,021	*100,000.00	2,286,816.42	†18,408,914.67

Year ended March 31—	Total book value of waterworks at close of year.	Amount of debt from loans at end of year.	Amount turned over to other municipal departments or to the city treasury.
	Marks.	*Marks.*	*Marks.*
1883	38,206,103.00	38,204,247.00	‡267,814.00
1884	37,608,853.00	37,608,732.00	‡200,000.00
1885	39,983,906.00	36,980,265.00	‡525,893.00
1886	36,595,294.47	36,323,532.00	‡625,000.00 §245,478.00
1887	17,845,171.44	36,635,088.00	§1,642,270.47
1888	38,744,481.51	36,190,000.00	§1,[illegible],5[illegible]9.37
1889	3[illegible],320,265.51	36,264,471.35	§2,436,795.42

* For creation of reserve fund.

† For building expenses have been paid: From loans, 18,408,914.67 marks; from surpluses, 6,178,503.26 marks; total, 24,587,417.93 marks.

‡ Paid over to municipal drainage department.

§ Paid over to city treasury.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, March 12, 1891.

CROP INSURANCE COMPANIES OF RUSSIA.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

It is officially reported that the commission organized at the ministry of domains for the elaboration of a basis of insuring the crops against hail has accomplished its work. Up to the present the insurance of crops against hail has been slow in developing itself. According to the latest official data, this branch of insurance amounted only to $9,000,000 throughout Russia in Europe, whereas the average crops of the Empire have a value about four hundred times larger than that insured. It must also be remarked that up to now there only exists one insurance society which undertakes this kind of insurance, and certain particularities of its statutes only admit large proprietors to insurance. It has therefore been deemed necessary that the smaller proprietors and peasantry should form a mutual insurance company against damages caused to the crops by hail.

Many projects presented at the zemstro assemblies of the provinces of Orel, Smolensk, Voronezh, Tamboff, Simberia, and Koorsk have been rejected. This result is attributed to the fear that, notwithstanding the expensive annual premiums which the participants would have to pay, the operations of the enterprise would not be sufficiently guarantied if only applied to one province, as this province might be simultaneously smitten with hail throughout its entire territory; hence the idea conceived by certain provinces to unite themselves, so as to organize a system, of insurance which would cover the whole region. This plan has also been rejected, together with one proposed by the governor of Penza, which was an obligatory insurance of the crops against hail throughout the Empire.

This latter project had been judged impracticable by the ministry of domains, for the reason that some of the different localities are more tried by other atmospheric causes than by hail, and that it would be unjust to oblige the proprietors of these regions to insure their crops against an evil which does not touch them, or at least not seriously.

The special committee attached to the ministry of domains having this question under consideration has completed its preliminary investigation; but, before presenting their project to the council of the Empire, it will be brought to the discussion of the zemstros of different provinces and agricultural and insurance societies, to be modified in conformity with the remarks made by these institutions.

In conclusion, I may say that it appears to be a settled fact that the insurance will be, in all cases, governmental, with the participation of the zemstros, and that it will also be obligatory throughout the Empire, thus introducing a new and very important factor into the agricultural interests of the Russian Empire.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, March 24, 1891.

Wages in Roumania.—Minister Snowden, under date, Athens, March 21, 1891, transmits the following statement of the wages paid per diem in Roumania: Joiners, 96.5 cents; carpenters, stonecutters, and masons, $\$1.15\frac{8}{10}$; tinsmiths, 57.9 cents; gypsy man, 39.6 cents; gypsy woman, 29 cents; porters, 39.6 cents; street-sweepers, 39.6 cents; miners, 96.5 cents; policemen, 39.6 cents; servants in official offices, $\$1.15\frac{8}{10}$; agricultural day laborers, 39.6 cents.

NORTH SEA AND BALTIC CANAL.

REPORT BY CONSUL JOHNSON, OF HAMBURG.

Since the sixteenth century sixteen plans for the connection of the North Sea with the Baltic have become known, nine of which belong to the period from 1863 to 1881. The two last projects of Leutze and Dahlström served as a basis or guide for the project now being executed. In 1886 two laws were passed whereby the building of this canal became a certainty, and on June 3, 1887, in the presence of the late Emperor William I, the first spadeful of earth inaugurating this great work was turned at Holtenau, near Kiel.

The canal consists of a cut 98.6 kilometres in length, beginning at Holtenau, on the Bay of Kiel, and terminating near Brunsbüttel, on the River Elbe, thus running clear through the province of Schleswig-Holstein from northeast to southwest. As the mean water level of the North Sea is considerably higher than that of the Baltic, both openings will be provided with huge locks. Near Rendsburg there will be a third lock, connecting the new canal with the old Eider Canal.

Of the four railroads which cross the canal, three will be conducted over it by turn bridges of 36 metres clear width of trajection; one, the West Holstein Railroad, by means of a suspension bridge (near Grünthal) of 156.5 metres' span. The latter, at the same time serving as a high road, is to have a height of 42 metres, thus permitting the largest vessels to pass under it without lowering topmasts. The turn bridges are all constructed with one track only, in such a manner as to give a separate bridge to the double-track railroads for each of their tracks. This makes it possible, in case of one of the turning benches getting out of order, to conduct the traffic in both directions for a time over the remaining bridge. For the conducting over the canal of two much-frequented country roads the erection of turn bridges of equal width of trajection is contemplated. For all remaining roads of any importance ferries are to be provided, the total number of which will amount to sixteen, situated at a distance of about 6 kilometres from one another. There will be altogether six turnouts, to enable vessels to pass each other. They will be 450 metres long and 60 meters wide at the canal bottom.

The medium water level of the canal will be about equal to the medium level of the Kiel harbor. Considerable variations occur—on an average, on about 25 days in the year only—so that the locks at the outlet on the Baltic will nearly always be open. For 60 kilometres from the mouth at Holtenau to the city of Rendsburg the bottom is horizontal; from here to the mouth, near Brunsbüttel, a slight declination sets in, amounting at the beginning for 20 kilometres to 1 in 200,000; 15 kilometres further, to 1 in 50,000; 12 kilometres further, to 1 in 33,333; and, finally, at the mouth for 12 kilometres, to 1 in 25,000.

At the lowest tide the profile of the canal has, in a depth of 6.17 metres below the surface of the water, a navigable width of 36 metres, so as to allow the largest Baltic steamers, which, with a few exceptions, do not exceed a draft of over 5 metres and a width of 12 metres, to pass each other. For the conducting or drawing of the lines the movement and motion of men-of-war and of the largest vessels of the merchant marine have been determinative, because these can only pass curves having a large radius; therefore, 1,000 metres have been fixed upon as the smallest radius. Considerable expansions of the profile take place up to a radius of 2,500 metres. Between two counter curves a straight line has been interpolated for the safety of the navigation of the vessels, for which a speed of 5.3 knots is admissible. Turn bridges are only built over straight lines of the canal, to facilitate observation. Sixty-two kilometres, or about 63 per cent. of the entire canal, consist of straight lines; 5 kilometres with a radius of 6,000 metres, 5½ kilometres with a radius of 5,000 metres, 13 kilometers with a radius of 3,000 metres, 4 kilometres with a radius of 2,500 metres, 1 kilometre with a radius of 2,000 metres, 2 kilometres with a radius of 1,700 metres, 3 kilometres with a radius of 1,500 metres, and 3 kilometres with a radius of 1,000 metres.

The line from Holtenau to Rendsburg runs through a very undulating country and has the greatest number of curves. The smallest curves of 1,000-metre radius are situated behind the emptying of the canal into the Firth of Kiel.

In front of the outlet into the River Elbe there is a roadstead 8 kilometres in length and 1.5 kilometres wide, thus having a surface of 12 square kilometres. Its average depth is 11 meters at lowest tide. The cutting through of 15 kilometres of the watershed of the rivers Elbe and Eider requires an excavation of 30 metres, greatest depth to the bottom of the canal.

On the line from Rendsburg to the Baltic a ridge of hills 24 kilometres long and 14 to 32 metres above the canal bottom must be cut through. Just beyond Rendsburg the canal line passes through the upper Eider lakes, which will have to be lowered 2.33 metres.

The flow of the canal is towards the Elbe. At high tide in the Elbe it discharges into the Baltic. At the Elbe mouth the permissible speed of flow is up to 2.8 knots; towards Rendsburg it is less. In every tide 3,000,000 to 4,000,000 cubic metres, partly afflux from interior sources and the remainder from the Baltic, are moved. At the Elbe mouth the locks remain open down to 0.5 metre below the general low tide of the Elbe; on the Baltic, 0.5 metre above or below the mean water level of the Baltic.

At the lowest tide the transverse section of the canal is equal to six times the immersed transverse section of the largest merchant vessels of 60 to 62 square metres transverse surface. For the navy there are required 22 metres width of canal bottom, at least 58 metres width of water surface, and 8½ metres depth of water. The possible deepening of 9 metres has been foreseen. The greatest depth for merchant vessels is calculated at 6.5 metres. In the height of the keel of such merchant vessels drawing 6.5 metres the transverse section of the canal must be of sufficient width to permit vessels of 12 metres width to pass each other. On the banks there must remain a height of 2 metres at mean water level for the passing wave. In the height of the movement of the waves the banks are provided with stone packing. The canal bed is 22 metres wide, generally; in curves under 2,500 metres radius the width is increased. Where the radius is 1,000 metres, the increase amounts to 16 metres. The slopes have an inclination of 1 to 3, up to 3 metres above the bed; 1 to 7, up to 7 metres above the bed. Here the slope is broken by a level 2½ to 9½ metres wide. From 7 metres above the bed the inclination of the slope is 1 to 1½, and is provided with stone packing up to 1 metre above the mean water level. The transverse section, with 8.5 metres depth of water, is equal to 380 square metres contents.

Altogether 78,000,000 cubic metres of earth have to be moved, to accomplish which the following is required: Twenty-seven dry dredgers, 24 floating dredgers, 97 locomotives, 100 kilometres of track, 2,700 dirt cars, 4 elevators, 15 steamboats, 51 receptacles for dredging utensils, 37 steam pumps, a number of forging establishments, and 2 brickyards; total value, 14,000,000 marks. Up to the beginning of April, 1890, 11,000,000 cubic metres had been moved, or 1,000,000 cubic metres per month. If the work is continued at this rate, there is reason to believe that the canal will be finished by April 1, 1895. Its total cost is fixed at 156,000,000 marks, or about $37,128,000. Of this amount the Russian Government paid 50,000,000 marks before work was begun. The remaining 106,000,000 marks are paid, as they are required, by the German Empire. Like all large undertakings of this kind, however, the cost will most likely reach a higher figure.

About 7,000 workmen are employed in the construction, all of whom are provided with board and lodging by the imperial canal commission, under whose guidance and management the canal is being constructed. There are 38 camps for 100 to 500 men each; each camp has its own executive office, sleeping barracks, and outhouses. The sleeping barracks contain heatable cells with 8 bunks each and an air space of 12 cubic metres. In the executive office building there is a store for the sale of provisions and woolen wearing apparel, tobacco, etc.; a kitchen and storeroom, a meeting hall of 180 square metres, a washhouse and disinfectory, and an appartment for a district surgeon. The common laborers receive about 70 cents a day, while the foremen and skilled laborers get from 95 cents to $1.15 per day. They are said to be well satisfied with their quarters and their food.

The regulations for the working of the North Sea-Baltic Canal have been adapted to the traffic to be anticipated. The traffic between the Baltic and the North Sea, including vessels coming from a greater distance, embraced, on an average, from 1871 to 1880, through the sound, 35,246 vessels; through the belts, 4,000 vessels; through the Eider Canal, 2,258 vessels; total, 41,504 vessels. The traffic in the sound was, withal, on the increase up to the year 1882. It amounted to 24,541 vessels in 1858 and 38,788 vessels in 1882. The average tonnage was 200 registered tons for sailing vessels and 620 registered tons for steamships. The average tonnage compared as follows: Sailing vessels to steamships as 1 to 3.1. On an average, 12,241,830 registered tons were moved between the North Sea and Baltic, half of this freight being carried by sailing vessels, the other half by steamships. Of these craft there frequented, on the average, the German Baltic ports 9,577 vessels with 2,464,544 registered tons; Danish Baltic ports, 5,177 vessels with 1,133,895 registered tons; Swedish Baltic ports, 13,718 vessels with 4,031,821 registered tons; Russian Baltic ports, 12,084 vessels with 4,611,570 registered tons; so that Russia showed the most extensive foreign traffic, with Sweden next and Germany third. From this traffic such cargoes as can be forwarded more advantageously around the Skaugh must be deducted, and then there would remain some 9,000,000 registered tons which would come into question for the North Sea-Baltic Canal.

Considering the proportion of the tonnage of sailing vessels to steamers (1 to 3.1), and the fact that in the years 1878 to 1880 the number of steamers compared with that of the sailing vessels as 28,814 to 79,887, and that about 20 per cent. of the former and 25 per cent. of the latter sail in ballast, the annual traffic coming into question is calculated as follows:

Description.	Vessels.	Cargo.
Steamers:	*Number.*	*Reg. tons.*
In ballast	1,568	972,408
Loaded	6,274	3,888,632
Total	7,842	4,861,040
Sailing vessels:		
In ballast	5,436	1,087,050
Loaded	16,305	3,261,150
Total	21,741	4,348,200

Of this traffic, considering all the circumstances (some of the vessels are still going to take the route around the Skaugh, on the other hand the traffic increases every year), four-fifths of the traffic may be counted upon for the canal for the near future. This traffic will be unequally distributed among the different months and days, and likewise unequally concerning the direction in which the canal is passed. With sailing vessels this will depend upon the wind. All of these considerations lead to the result that 27 steamers and 30 tows of 3 to 4 sailing vessels each, moving in one direction, must be regarded as the highest limit for one day; that the technical arrangements must suffice for this; but that in the future the number of steamships will increase and that of sailing vessels decrease.

The profit derived from ships using the canal, instead of the route around the Skaugh, is thus calculated for each minute of actual time: For steamships of 620 registered tons, 0.626 mark; for sailing vessels of 200 registered tons, 0.058 mark; so that, with regard to a passage through the canal, the value of time to steamers compares to that of sailing vessels as 10.8 to 1. The time saved by a steamship sailing from Kiel to Hamburg via the canal, instead of through the Skaugh, is estimated at 2½ days. The time of passage through the canal, including stoppages and delays, will be about 13 hours. By the aid of electric light traffic may be carried on at night similar to the manner in which it is at present conducted in the Suez Canal.

The fees for the use of this new water way have not yet been fixed upon and will probably not be until after its completion. In times of peace the canal is to be open to men-of-war, as well as merchant vessels of every nation, while in case of a war its sole use would be reserved for the vessels of the German navy.

From the year 1858 to 1885 not less than 6,316 steamships and sailing vessels were wrecked on the Danish and Swedish coasts, and of these 91 steamships and 2,742 sailing vessels were lost. During the years 1877 to 1881 708 persons lost their lives in parts which, after the completion of the North Sea-Baltic Canal, need no longer be navigated. The loss to German shipping alone amounted to 6,150,000 marks.

Germany has two naval ports: one at Kiel, on the Baltic, and the other at Wilhelmshafen, on the North Sea, which, after the canal is finished, will be within easy access of each other. Now it would take a squadron about 3 days to sail from Kiel to Wilhelmshafen. Thus the North Sea-Baltic Canal, aside from its being a wonderful feat of engineering and the fact of its employing some 7,000 men for over 7 years, will prove to be strategically and commercially one of the events of the century and a safeguard against enormous losses of life and property.

CHAS. F. JOHNSON,
Consul.

UNITED STATES CONSULATE,
Hamburg, March 28, 1891.

AFFAIRS IN GIBRALTAR.

REPORT BY CONSUL SPRAGUE.

TRADE WITH THE UNITED STATES.

The situation regarding the trade in general between this market and the United States continues much the same as at last report. A fair business is still carried on in the importation of refined petroleum and flour direct from New York, while the tobacco trade still continues greatly paralyzed under the vexatious restrictions, as already stated in previous reports; nevertheless, the importations of Kentucky and other American descriptions of tobacco have not altogether ceased, nor are they likely to so long as the weed is regarded as a monopoly in Spain.

GROWING CROPS OF CEREALS.

On account of the backward condition of the growing crops in Spain, Algeria, and Morocco, all kinds of cereals have been steadily advancing in price in all the neighboring markets, with reduced stocks of barley and wheat on hand. It is feared that the coming crops may finally turn out much under those of previous years, both as to quantity and quality.

BRITISH NAVY.

The British channel fleet, composed of some of England's best ships of war, has been visiting this port and been stationed here for several weeks past. It took its departure on the 21st ultimo on its homeward voyage, calling into Cadiz Bay on its way.

I understand that the naval hospital it had established years ago at the Portuguese capital has recently been abandoned, and a wing of the military hospital here, which had hitherto been under the control of the army authorities, has recently been set apart for the exclusive accomodation of the navy.

PROPOSED DRY DOCK.

I do not learn of any decided action having yet been taken with regard to the proposed construction of a dry dock in Gibraltar. As the newly appointed governor to this fortress, General Sir Lothian Nicholson, is an engineer officer and has lately held the high post of inspector of fortifications, it is possible he may be instructed to study the project, and, after obtaining his views and opinions upon this proposed formidable work, the home authorities may then be in a better position to decide as to the advisability of carrying out or not the proposed scheme; in the meantime it seems to be a settled question to extend considerably the present dockyard mole for the better accommodation and safety of the British vessels of war constantly arriving at this port.

The new fortifications on the summit of the rock are said to be on the point of completion, but I am not aware of the arrival of any additional supply of new rifled guns required to be mounted thereon, although I am informed that a quantity of the most improved armament is shortly expected. A large supply of the old style is still kept in use in the fortress as a reserve.

HORATIO J. SPRAGUE,
Consul.

UNITED STATES CONSULATE,
Gibraltar, April 3, 1891.

ORIENTAL TRADE OF AUSTRIA.

REPORT BY CONSUL HAWES, OF REICHENBERG.

The foreign trade of Austria-Hungary has increased considerably during the last 10 years, as the trade balances show conclusively. The exports, which amounted in 1881 to 731,000,000 florins, in 1882 to 782,000,000 florins, and in 1883 to 750,000,000 florins, fell in 1884 to 691,000,000 florins and in 1885 to 672,000,000 florins. From this time, however, it has continually increased. In 1888 it reached 729,000,000 florins; in 1889, 747,000,000 florins; and in the first 9 months of 1890, 582,000,000 florins. The balance in favor of Austria, which in 1889 amounted to 169,000,000 florins, showed for the first 9 months of the last year 120,000,000 florins and for the whole year will probably have reached 200,000,000 florins.

The data now available for 1890 show enormous figures, even when we take into consideration the great increase of sugar exports and the extraordinary export to the United States preceding the passage of the new tariff.

The Monarchy has, in the last decennary, lost a very considerable trade in the countries of the Balkan peninsula and in the Orient, as well as in the Levant, partly through its own fault and partly owing to circumstances beyond its control. It is a characteristic fact that in Roumania, in spite of Government aid in the form of freedom from taxes and free importation of machinery and raw stuffs, most of the factories founded do not succeed, because all the economic factors of this country favor agriculture and discourage small industries.

In connection with the sad consequences which the closing of the Austrian market to the products of the earth and herds of Roumania caused, it appears like the irony of fate that goods formerly ordered from Austria are now procured from other manufacturing countries at quite as dear prices, Austrian manufactures, even, being purchased in Germany. In this connection it appears that, upon the expiration of the German-Roumanian treaty in 1891, there may be an end to the importation of Austrian wares through Germany. The present unnatural relations may consequently soon find an end. Even if the conclusion of a commercial treaty between Austria and Roumania may not be expected yet, the present commercial war will soon be over.

The Roumanian Government has finally adopted a new tariff, composed really of two tariffs, one a minimum tariff for those countries which are as liberal to Roumanian provinces as to those of other countries and a maximum tariff for countries which do not stand on so favorable a footing.

Should Austria fall under the minimum tariff, which increases the value of the wares from 8 to 10 per cent., exportation will be facilitated very much, and would probably soon reach its old figures.

An arrangement with Turkey relative to trade with the Orient is of great importance to Austria also. The treaty of 1862 with Turkey expired on July 5, 1890. It will, however, according to its stipulations, remain in force until a new treaty is negotiated. In the meantime a treaty has been concluded with Egypt, which will remain in force for 10 years from January 1, 1891, with 1 year's notice, based upon mutual concessions. Austria has obtained the following advantages: The duty on beer, glassware, porcelain, paper, clothing, underclothing, and shoes is 10 per cent. Austria also partakes of the advantages of the English-Egyptian convention. These arrangements cause in Austrian industrial and trade circles universal satisfaction, as it is now thought that Austrian trade with Egypt may be improved. Austrian exports to Egypt amounted in 1889 to 17,100,000 francs, against 19,600,000 francs the previous year, of which loss the textile industry bore the principal burden.

Although the convention referred to above took effect January 1, 1891, no change has yet taken place, as the many treaty rights possessed by other powers in Egypt have as yet prevented it.

Bulgaria will also play an important rôle in the trade negotiations between Austria and Turkey. Austria has been assured that the English-Bulgarian arrangement will be extended to Austrian provinces. In the meantime, since the exchange of notes in October, 1890, goods from Austria pay the general duty of 8.5 per cent., and the old table of values for many Austrian articles was abolished.

The Austrian treaty negotiations with the Porte are still rather obscure, but from the German-Turkish treaty it is seen that Turkey has done away entirely with her ad valorem tariff and substituted therefor a rather detailed specific tariff.

In regard to relations with Servia, it is known that the Servian Government, at the instance of the Austrian cabinet, has expressed its opinion that the old ad valorem tariff should be replaced by a specific tariff and a more rigid supervision of border traffic. There will also be an opportunity in these treaty negotiations to favor Austrian exports, especially as Servia had an opportunity during the celebrated "hog war" to convince herself of the advantage of good trade relations.

The Oriental Railway, which binds the Monarchy with the Balkan peninsula as far as Constantinople, has not produced such favorable results as was hoped, the principal reason being the difficulties which the Balkan states present to the conclusions of the *conférence à quatre* regarding direct traffic. The lack of direct transportation and cheaper freight between western Europe and Turkey, *i. e.*, the Balkan states, is the cause of great difficulty to the Austrian merchant. With the exception of beer, which enjoys the advantage of direct transportation, freight must still be carried by sea; therefore, the recently prepared arrangement of a direct tariff and the universal regulation of freights between Austria-Hungary, Servia, Bulgaria, and Turkey is of great value. Although the Government has paved the way by judicious treaties, it remains for corporations and firms to take the proper advantage of the circumstances.

The exports to Roumania have fallen from 154,000,000 francs in 1883 to about one-third of that sum, and in other parts of the Orient Austria has felt the competition of other countries. Still, Austria possesses an important share of exports to these parts. The sugar trade is almost entirely in the hands of Austria, and in textiles Austria still plays an important part. In the maintenance of its position as sugar exporter, the improvement of the textile trade, and the protection of exports of beer, paper, glass and porcelain ware, fancy goods, iron and ironware, spirits, matches, lumber, and drugs lies the present chief duty of Austria in this connection. Trade with some Oriental countries has of late increased; for instance, exports to Bulgaria were 4,300,000 francs more in 1889 than in the previous year.

Experience has shown that in the Orient great collections of samples, floating exhibitions, etc., are of no value, and trade can only be built up by competent, trustworthy travelers who speak the languages and are familiar with the local relations, as well as the establishment of permanent local houses.

The preparation and distribution of new samples, the allowance of liberal sample discounts, tasteful putting up and solid packing, and the most accurate agreement of the shipment with the samples are factors all needed to build up trade.

JNO. B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, March 20, 1891.

MEXICAN NATIONAL RAILROAD.

REPORT BY CONSUL-GENERAL SUTTON, OF NUEVO LAREDO.

The Mexican National Railroad is the shortest and quickest route from the American frontier to the capital of Mexico. The fast train, called "the Aztec limited," leaves this city every day in the year and reaches the city of Mexico in 40 hours and 15 minutes. The train consists of a baggage-express-mail car, a through Pullman, a third-class and a combination second-first-class car. Besides this an extra Pullman sleeper runs to and from Monterey.

Leaving this city at 8 p. m., Monterey, distant 168 miles, is reached at 3 a. m. Here the Monterey sleeper is switched off and the rest of the train goes on up the mountain to Saltillo, 235 miles, where it arrives at 7 a. m. The passengers take breakfast at Saltillo; pass Venegas, 356 miles, at 12 o'clock; Catorce (the dinner station), 370 miles, at 1 p. m.; and reach San Luis Potosi (supper station), 478 miles, at 5.10 p. m. San Miguel, 586 miles, is reached at 10 p. m.; Acambaro, 663 miles, at 2:30 a. m.; Flor de Maria (breakfast), 757 miles, at 7:30 a. m.; Toluca, 795 miles, at 9:15 a. m.; and the city of Mexico, 840 miles, at 12:15 p. m. This gives a running time, including four stops for meals, of nearly 21 miles per hour.

The beautiful and historic city of Monterey, with its surrounding mountain ranges and the noted peaks of La Silla and La Mitre, the Topo Chico Hot Springs, and Bishop's Palace Hill, will well repay a stop off of a week or more. From Monterey to Saltillo the road winds and climbs its way to the higher level, and the scenery along the line is very fine. Burro paths from the silver mines high up on the mountain sides down to the dump heaps by the side of the track, peaks covered with clouds and again breaking out into the sunshine make the ride one of great interest. The traveler should always try to pass this portion by daylight, but to do this under the present schedule must stop off and take the mixed day train. The view going down from Saltillo to Monterey is the best, and especially standing on the front platform of the baggage car, with twenty-five or thirty freight cars in front. On this down grade the steam is used only to keep the pressure on the air brakes. At one point on this down trip a small mountain stream is crossed on a bridge 20 feet high. Soon the grade is at a level of the stream, and the train passes the mouth of a ditch, into which water flows, and is carried many miles below to a small piece of level land. This ditch, which dates back to the time of the Spanish domination, follows the side of the mountain, and the railway goes alongside, now close by and then at greater distance; and, as the grade falls much the more rapidly, the ditch is soon high up on the mountain side, while the train runs on the lower level of the cañon.

Saltillo, the breakfast station, is next reached. The battle field of Buena Vista is some 7 miles beyond, and the track runs within 50 feet of the point of the foothills at whose base, along the narrow *camino real* bordered by the *barranca* and this point of the foot hills, was fought the main portion of that battle.

Some distance beyond is a fine view along the horseshoe curve. Toward noon the celebrated Mineral de Catorce, which has yielded so many million dollars of silver, is seen to the left, and high up on its upper crest, far out of sight, is the Real de Catorce, with a population of from 8,000 to 12,000 (according to the output of the mines), in which no wheeled vehicle is ever seen.

Along here is the great prairie-dog village, which a recent visitor from our Department of Agriculture estimated to contain 200,000 dogs on some 15,000 acres of land. The line goes right through the village.

From San Luis Potosi, the second commercial city of Mexico, in a fertile valley, with rich mining districts all around it, the traveler passes, at night, Dolores Hidalgo, where the Washington of Mexico lived and where in 1810 he started the revolution against Spanish domination.

The next morning at Toluca one gets the first glimpse of the snow-capped crater of the extinct Toluca volcano. From Toluca the ride up the mountain to the summit of the divide affords one of the finest views in the country. At first the line parallels the old King's Highway, then with two engines begins the steep ascent. As the train rises, the wide valley to the right, cultivated to the very foothills, looks like a chessboard, with the communal holdings cut into square pieces covered with growing crops. At one point a turn around the brow of the mountain brings the train to a stop, where, if the engines were derailed and fairly started to rolling, they would go 5,000 feet away and down into the very plaza of one of the old Aztec cities, Acoyocac. All of this, the further rise to 10,635 feet, the sharp descent into the wonderful valley of Mexico are magnificent and, to the student of Aztec and Mexican history, of deep interest.

Within the last 5 years a steadily increasing number of our citizens has made trips of business or pleasure to Mexico. It seems to me advisable that this should go on increasing. Our large financial investments in Mexico are greatly aided by this travel, and it enables our people to know Mexico and the Mexicans better.

To the sight-seer Mexico affords inexhaustible riches, while her mining, her agricultural, commercial, and financial developments are of interest to the man of business. To the student of history and racial questions Mexico is perhaps the most valuable field in the whole world.

The number of our people visiting Mexico would have been greater, except for certain conditions which are now being fully surmounted. The well-to-do tourist has an almost pathetic regard for his or her stomach, and it was formerly difficult to provide suitable refreshments for this very necessary part of the human system. The traveler was started off at an early hour with nothing but poor coffee and bread to support nature and keep up an appreciative state of mind for the many curious things en route until 11 or 12 o'clock; then a hurried struggle in, perhaps, a box car with a breakfast which, from its cosmopolitan badness, left a bad taste in the mind long after its physiological badness has passed; a dinner at, say, 4 or 5 p. m. which was little, if any, better, and then headache and bad dreams. In a Pullman car, of course, there was a decent bed, but when the tourist left that behind the future was very uncertain.

In these high altitudes the cold is often very severe, and when, as some years ago, a good meal or a good bed or a well-warmed room were almost unattainable, few people availed themselves of the railways, and these in turn did not send an increased number in the following year. To be sure, something is still lacking along the best-traveled routes—there usually is anywhere—but matters are much better than formerly.

At Laredo, Tex., a "passengers' assistant" for the National Company meets every train. His sole duty is to help people across the river and start them happily on their way. He is in uniform, speaks English and Spanish perfectly, and is a general utility man. He sees lone ladies into the 'bus for supper, buys tickets, engages berths; gets United States coin changed into Mexican, or *vice versa*, at the railway office, and that, too, at the exact rate of exchange; sees to checking and examination of baggage at the customs on both sides, dispatches packages and telegrams, and answers all questions.

The company now has excellent eating houses, and good meals also, at Saltillo, Catorce, and San Luis Potosi, and stops can now be made at all principal, and at some minor, places with reasonable expectations of fair accommodations at hotels. This is particularly true as to Monterey, where is a large permanent, as well as tourist, population of our citizens. Every considerable place has street cars and telephones; Monterey, San Luis Potosi, and Mexico have electric lights, and many other improvements are being made which add materially to the tourists' comfort.

Life in Mexico in the extreme heat of summer is far from agreeable, unless one can seek some high altitude; but there can hardly be a more interesting or useful journey than a winter tour to Mexico. Our traveling countrymen ought certainly to know as much of their next-door neighbor as of European states. The average tourist here usually lays in a supply of walking canes, silver filigree work, ornaments made of Puebla onyx; wax and cloth figures of men, beasts, birds, etc.; feather pictures, and a heavy stock of *loza* (pottery) and baskets. The discovery of the existence in this country of iridescent pottery some years since is due to Mr. Charles Dudley Warner, who had the subject investigated for Harpers' Monthly by Mrs. Addis.

There are now many good guide books to Mexico, and, not to be outdone, the National has issued a large amount of valuable literature of this sort for free distribution. The incoming and outgoing of the tourist is made miserable in advance by the dread of the customs officers. Constant travel has, however, smoothed the way in this regard, so that there is almost no trouble nowadays, and, with the aid of the passengers' assistant, or *ayudante de passajeros*, there is no cause for annoyance. The customs officers along the border are uniformly polite, and every possible courtesy is shown. This is especially true on the Mexican side, where even the former strict and often annoying and useless revisions are gradually being reduced to a minimum. By recent arrangments any baggage can be wire-sealed through to destination to principal cities in the interior of Mexico, but not beyond the capital.

As it is a matter of curiosity to travelers to know the altitudes along the line, I give the following:

Stations.	Distance from Nuevo Laredo.	Altitude.
	Miles.	*Feet.*
Nuevo Laredo		806
Monterey	167	1,700
Saltillo	237	5,000
Vanegas	356	5,500
Catorce	371	6,000
San Luis Potosi	479	6,000
Dolores Hidalgo	565	6,000
San Miguel	587	6,000
Ocloya	621	5,700
Acámbaro	664	6,290
Maravatio	702	6,700
Toluca	795	8,700
La Cima (the Height)	817	10,635
City of Mexico	840	7,300

CONNECTIONS.

At Laredo, Tex., the Mexican National connects with its auxiliary line, the Texas-Mexican, to Corpus Christi, Tex., on the Gulf of Mexico, 161 miles distant. This line connects at Alice, and also at Corpus Christi, with the San Antonio and Aransas Pass system. At Laredo, Tex., close connections are made each way with the International and Great Northern. At Monterey it crosses the line of the Monterey and Mexican Gulf Railway (standard gauge) and connects with trains over that line northwest to Venadito, on the International, and southeast with trains to Victoria and the end of the line, now building rapidly to Tampico. At Vanegas it connects with the narrow-gauge (3 feet) road to Cedras and the mines of the Catorce. At San Luis Potosi it connects with a branch of the Central, east to the Gulf of

Tampico and west to the Central's main line at Aguas Calientes. At Celaya, between San Miguel and Rueretero, it again crosses the main line of the Central, while at Acámbaro it connects with its Patzcuaro branch, southwest toward the Pacific, and at Tacuba, near the city of Mexico, with its El Salto branch, which runs some 40 miles to the north.

Passengers can leave St. Louis, Mo., by the St. Louis, Iron Mountain and Southern at 8:05 p. m., arriving at Laredo at 3:15 p. m., 42 hours later. A stop at Laredo from 3:15 to 8 p. m. affords ample time for transfer and examination of baggage, supper, etc., so that the whole time from St. Louis to the city of Mexico, including the stop at Laredo and stops for meals en route, is 87 hours.

It will be noted that the schedule time of nearly 21 miles per hour on the National compares very favorably with that of any other line in Mexico. Although this is a narrow (3 feet) gauge, the special Pullman cars, built within the last year or two, are models of comfort, and this, added to excellent eating houses and every other accommodation possible at the border and along the line, has built up a very good through passenger traffic. On some portions of the line near Vanegas the running time is about 30 miles per hour, a very good speed for a narrow-gauge train. This, however, is made possible by the fact that the roadbed is, generally speaking, in good condition and that the portion between Saltillo and San Luis Potosi is, perhaps, naturally the best in the country.

From Laredo to Saltillo a mixed train runs each way daily, stopping over, however, at Monterey until the next day. From San Miguel to the city of Mexico an extra passenger train runs daily each way, and from Toluca into Mexico a third passenger train runs daily. Two daily trains are run on the El Salto branch, one on the Corpus Christi branch and one on the Matamoros branch. The total length is as follows:

Railways.	Length.	
	Kilometres.	*Miles.*
Main line, from Rio Grande bridge, at Nuevo Laredo, to depot in city of Mexico	1,350.44	838.63
El Salto line	68.29	42.41
El Salto line (unused end)	4	2.48
Quarry branch from Naucalpan	4.45	2.76
Patzcuaro branch	154.35	95.85
Matamoros branch (Matamoros to San Miguel)	121.58	75.50
Branch to repair shops, Nuevo Laredo	1.53	0.95
Cintura Railway, cityof Mexico	5.10	3.17
Street railway, city of Mexico	3.54	2.20
Texas-Mexican Northern, in Laredo, Tex	2.16	1.34
Brownsville and Gulf, Brownsville, Tex	1.61	1
Texas-Mexican	260.91	162.03
Fort McIntosh branch	0.95	0.51
Total	1,978.91	1,228.91

I have said that the National was a 3-foot gauge. When the concession was obtained, in September, 1880, the Denver and Rio Grande, in the United States, had proven a temporary success as a narrow gauge, and the promoters, Messrs. Palmer and Sullivan, thought this gauge would be most suitable for the line of country to be traversed. It was also thought almost impossible to build and operate a standard gauge, because of the many sharp curves and heavy grades in getting from the border to the table-lands and in going over the divide between Toluca and the city of Mexico. It now seems to be generally admitted that this gauge was a serious error. It is cheaper to build a narrow gauge at first, and it is possible to build and operate one in places where a standard gauge is impracticable; but after this main line was once completed to the capital and it began to be an active competitor for the through imports and exports, it was soon determined that it was at a disadvantage as compared with standard-gauge lines.

The National is the shortest and best route now built, or possible to be built, between a border on the United States tributary to St. Louis, Mo., and the principal cities in the interior of Mexico. If it were a standard gauge, it would be a much more active competitor than at present, although even now it is the chief freight route between the two countries. The company, at an expenditure of about $8,000,000, would be enabled to change the main line to a standard gauge, and could use the present 30 to 45 pound rails, shorter ties, and present rolling stock on the Pacific extension and on many needed branch lines, which would serve as traffic feeders. There are no engineering difficulties on any portion of the main line which would prevent the broadening of the gauge and its successful and economical operation. In doing this there would be some slight changes in the present location and in curvatures between the border and Maravatio, the third station beyond Acámbaro. From this point a new line some 30 miles in length would be constructed east to connect with the El Salto branch, and thence south on this to the city of Mexico. This would also reduce the distance into the capital some 15 to 25 miles and avoid the steep grades and sharp curves on the rise from Toluca over the summit and down to the valley of Mexico. The water in Mexico is very hard on locomotive boilers, and, whether they use coal or native woods, there is more proportionate waste of fuel, more wear and breakage, and more general loss in running a narrow, than a standard, gauge locomotive. The tendency on this road in recent years has been to increase the weight of the rails from 30 to 45 pounds and to greatly increase the weight of the locomotives. As it is not possible to distribute all of this increased weight below the line of equilibrium, this tends to render them top-heavy. The same is true as to the capacity of the freight cars, and, while the proportion of dead weight is perhaps lower than in standard-gauge cars, yet the net freight results are not in proportion to the added expense and cost of operation.

Like all other roads in Mexico, it has found it extremely difficult to much more than pay cost of operation. The fourth annual report of the president, Capt. W. G. Raoul, states the earnings of the road for the year ended December 31, 1890, in Mexican currency, at $3,754,966.36 and the cost of working the road at $2,927,961.89, leaving a net profit over cost of working of $827,004.47, in Mexican currency.

Net profit over cost of working, in United States currency at 80 cents		$661,603.58
Less the following repairs and replacements not properly chargeable to capital account:		
Increasing number of ties and ballasting old line	$69,305.14	
Replacement of rails, Texas division	22,435.81	
Replacement of locomotives	16.414.37	
		108,155.32
Total		553,448.26
Less:		
Collection and distribution of subsidy	$4,031.51	
Expenses, London agency	6,399.44	
Net loss in exchange	2,397.32	
		12,828.27
Net profit over all expenses, renewals, and replacements		540,619.99
Less the earnings against the Federal Government not yet collectable		36,434.05
Net result available for interest on bonds		504,185.94
Received from subsidy trustees, account of interest deficiency for year 1890		305,314.06
Total available cash		809,500.00
Against this was paid on prior-lien bonds to December 31		747,000.00
Accrued interest for December, 1890		62,500.00
Total		809,500.00

OPERATION.

Table showing the net earnings and expenses of the Mexican National Railroad, in Mexican currency, for 1889 and 1890.

Year.	Gross earnings.	Cost of working road.	Net profits over cost of working road.	Percentage of gross earnings for working road.
				Per cent.
1889	$3,660,124.24	$2,993,431.54	$666,692.70	81.78
1890	3,754,966.36	2,927,961.89	827,004.47	77.97
Increase	94,842.12		160,311.77	
Decrease		65,469.65		3.81

The saving has been mainly in the roadway and motive-power departments, largely due to the improved condition of the roadway and engines effected by previous expenditures. The train service was maintained through the rainy season better than ever before. There were two expensive and several minor accidents during the year. Eight new locomotives were purchased during the year, the payments for which are distributed over 5 years. Since 1887 one hundred and twenty-five freight cars have been condemned and destroyed, and some twenty-five more are now ready for this process.

There is an urgent necessity for taking immediate steps to increase the equipment. During the busiest months in the past year the road was earning all it could with its present rolling stock, and, as will be seen by the figures previously given, this limit of earnings must be exceeded before the fixed charges of the prior-lien bonds can be met therefrom.

The excess of tonnage over the previous year, measured by the unit of 1 ton per 1,000 kilogrammes transported 1 kilometre, is 21,574,616 tons, and the excess of the actual number of tons handled is 43,835 tons. In 1889 there was an abnormal traffic in railway-construction materials. The excess of this traffic in 1889 over 1890 was 26,798 gross tons, and of earnings $166,541.87.

In studying the future prospects of the company by considering the influence the road has had thus far upon the development of the country which it serves, it is necessary to take account of the fact that it was the growth of the regular business of the country that produced the gain of $94,842.12 over the last year, and that that increase was made besides making good the falling off of $166,541.87 in railway-construction material, which is equivalent to a growth of the regular business of the road of something over $250,000, or nearly 8 per cent., after eliminating the railway-construction material.

For the year 1888 the total gross earnings of the road, not including railway-construction material, were $2,040,447.65. This was for the first 10 months of the year, before the middle division of the main line was completed, and for the months of November and December, after the main line was finished. It will be seen that the total ordinary traffic was greater in 1889 than 1888 by $1,619,676.59. Of course, the first year of the completion of the main line brought a large business which had been waiting this event. The difference between 1889 and 1890 represents probably what may be fairly expected to be the annual increase, which ought to be from 8 to 10 per cent. on gross ordinary earnings. If the equipment is brought up to the needs of the traffic, I should presume that this increase could be doubled, bringing it up to from 16 to 20 per cent. In spite of prevailing financial conditions, there is a considerably increased demand for imported merchandise in Mexico and of exports of domestic products other than precious metals.

The Texas-Mexican division shows a net profit for 1890 of $9,950.74, as against a loss in 1889 of $18,821.14. The through traffic to the border comes mostly by way of the International to Laredo, and is there taken over by the Mexican National. As only a small portion is taken over by the National on the Texas-Mexican division from the San Antonio and Aransas Pass system at Alice Station, and as the country along the line has not yet fairly started upon its inevitable change from a grazing to an agricultural region, it has not been possible in late years to make this division profitable. The small net profit above mentioned could have been used to advantage in keeping the line in better repair.

As to this change from grazing to agricultural, the first cotton was grown along the line of the Texas-Mexican division in 1888, during which year 160 bales were produced; in 1889, 1,270 bales; and in 1890, 4,700 bales. There is some as fine cotton country in that section as I have ever seen—level, already cleared, easy to cultivate, and may be relied upon to produce from half a bale to more than 1 bale per acre. I presume that 10,000 bales will be produced in 1891, and, so soon as immigration sets in this direction strong enough to warrant the breaking up of large tracts now used for grazing, ten times as much may easily be raised in the country tributary. In fact, the whole of this southwest portion of Texas will raise good cotton without irrigation, and with only a partial failure once in 5 years from drought.

The Texas-Mexican division served the National years ago in an emergency, but has never since been a source of direct profit. It has, however, been indirectly profitable, since it gives them connection at the Gulf, and later at Alice and Corpus Christi, with the San Antonio and Aransas Pass system, thereby rendering them less dependent upon the International.

It would be a very profitable thing if the company would immediately raise sufficient funds to change the Texas-Mexican division from a narrow to a standard gauge and make the main line from Laredo to Monterey a double gauge by laying a third rail. This ought to be done immediately, and is of much more pressing importance than the change of the whole of the main line. Monterey and points northwest connecting with the International of Mexico and thereby with the Mexican Central at Torreon, and to the southeast to Linares, Victoria, and, within a few months, clear through to Tampico, already require a considerable freight tonnage; and the present limit will be rapidly increased during the year. By this means the National could control their fair share of all through northern Mexico traffic, and that, too, more profitably than if they were still obliged to transfer everything at the border. There are certain kinds of heavy freight—lumber, dynamite, heavy machinery, live animals, and merchandise brought in refrigerator cars—which must be transshipped here at a considerable additional expense. This would also enable the company to turn on to the main line and Mexican branches the present equipment of the Texas-Mexican division, and thus save the purchase of new. It would also render the freight capacity of the road more elastic than now.

Of course, there are certain serious disadvantages incident to a different gauge of freight cars. In times of heavy traffic, when their own cars are all occupied, they simply have to refuse to receive freight. If they were standard gauge as far as Monterey, this difficulty would be much reduced, as it is easier and cheaper to use cars of another line than to go without them and thus delay freight. The present financial condition of the company is such as to forbid the carrying of an extraordinary supply of equipment to be idle at times and only required in the busiest seasons. The city of Monterey is the most important in northern Mexico, and, if the expectations of those interested are realized, bids fair to merit the term already given to it of the "Birmingham of Mexico." This is the only method by which the National can hold and increase its present large and profitable freights between that city and the border. The present rails on the Texas-Mexican branch will serve fairly as a standard gauge until gradually replaced by heavier ones. Those taken out can always be used to advantage on the main line and branches.

If the works now in progress at Corpus Christi shall result in obtaining deep water, this line would receive a considerable additional traffic therefrom.

The main line had been doing a very profitable business in the transport of medium-grade silver ores up to the time when, in 1889, the ruling by the United States Treasury Department stopped their free importation into the United States for smelting. This ruling has already caused the company a loss of several hundred thousand dollars, and was more severely felt because three-fourths of the freight cars coming north are empty and, generally speaking, all cars go south loaded. These empties could have been filled and made to earn freight on their return from Monterey and that vicinity to the border, whereas they are now brought back at a loss. This ruling has resulted in the creation of large plants for smelting ores in Mexico, particularly at Monterey and San Luis Potosi. One at Monterey is already in operation, and another will soon begin; one even larger is under construction in San Luis Potosi, and there are others building in different portions of Mexico. The National will get a considerable traffic in the Catorce dry ores brought to Monterey for mixing and some in low grade carried from along its line into Monterey; but this will not begin to compensate for the loss in the longer haul to the border.

The problem of building and operating railways in a foreign country is a new one to our citizens, and is much more difficult than when done within our own territory. The mere financiering requires ability of a very high order, as well as favorable financial conditions, and the latter must hold through a series of years.

Mexico is a country of magnificent distances, so that the minimum amount required to place the capital in connection with the border assumed great proportions at the outset. The subvention of $10,460 per mile was less than the value of many of the land grants given to roads in the United States, while the engineering difficulties were known to be much greater. The risks of investments in a foreign country were also much greater than for a similar enterprise within our own borders; nor could it be expected that the development of the country would be as rapid as in portions of our own West. In spite of these obstacles, the National was fairly and well on the way to completion of its whole system when the financial condition—not of Mexico, but in the money centers of the world—brought construction to a stop. For some years it was not even possible to complete the gap in the main line between Saltillo and San Miguel. When, however, this was arranged and the road finished in November, 1888, it fairly began its work of building up and sustaining a profitable traffic. It is a pleasure to state that its management is all that could be desired, and that it is bound to become in the near future a profitable property. Such an enterprise, however, is not for a year nor for 5 years, nor should there be any lack of funds to enable it to keep well up in the race for traffic.

Recognizing the need of changing the gauge, an attempt was made a year or two since to secure some $8,000,000 for this purpose, but, unfortunately for the property, the effort was not then successful. At present the change of the Texas-Mexican to a standard gauge and the laying of a third rail to Monterey are most urgent. If this were promptly done, its good results would, I am certain, secure the needed funds to change the rest of the main line, and thus put the road in shape to reap the full benefits of its unequaled location. With these betterments and the present capable management this ought, within 10 years, to be the best railway property in Mexico.

The following data are of interest to that large number of our citizens who already have invested or who are contemplating investing in Mexican railway securities, and is made more in detail because of the many inquiries received at this office.

I am indebted to Capt. W. G. Raoul, president, and Mr. Theodore D. Kline, general manager, for annual reports and other data.

Captain Raoul, in his report of March 13, 1891, gives the following figures as to the value of imports and exports through the custom-house at Nuevo Laredo and the amount of duties collected on imports, in Mexican currency:

Years.	Duties.	Imports.	Exports.
1886	$656,528.20	$1,128,029.84	$1,360,077.12
1887	751,533.64	1,974,162.84	1,257,464.11
1888	835,582.97	4,170,154.09	1,452,112.23
1889	1,519,306.78	8,786,982.13	3,078,836.59
1890	1,892,374.68	12,682,307.99	2,982,192.71

The following are statements, in United States currency, of the capital account, income account, etc., on December 31, 1890:

CAPITAL ACCOUNT.

Securities paid to acquire road:		
First-mortgage bonds		$2,000,000.00
Second-mortgage bonds (A and B)		24,330,000.00
Third-mortgage bonds (income)		7,040,000.00
Capital stock		33,303,750.00
		66,673,750.00
Less the following credits:		
Materials	$598,067.17	
Express property	2,148.15	
Bonds and stocks of other companies	4,022,750.00	
Texas-Mexican Railway account	192,086.57	
Texas-Mexican Railway betterment account	13,898.16	
		4,828,950.05
		61,844,799.95
Depreciation in above materials, as shown per inventory of November 30, 1889		130,194.20
		61,974,994.15
Less credits to railroad and property since January 1, 1889		4,240.02
		61,970,754.13

Expenditures since reorganization:		
Discount on sales, bankers' commissions, etc	$1,681,106.54	
Betterments, old line	630,457.34	
El Salto lien	191,431.66	
Debts of old company	167,410.00	
Construction of new line, including Sabinas coal road surveys, coal explorations, and Matamoros branch survey (deducting $144,181.91 charged to capital reserve)	4,574,695.49	
Equipment of new line	956,328.74	
Reorganization expenses	529,437.57	
Interest reserve absorbed in 1888	650,000.00	
Capital reserve absorbed in 1888	112,552.00	
Capital reserve absorbed in 1889–'90	144,181.91	
		$9,637,602.15
Total		71,608,356.28
Bonds and stocks of other companies:		
Corpus Christi, San Diego, and Rio Grande N. G. Railway 7 per cent. bonds	$248,000.00	
Texas-Mexican Railway 6 per cent. bonds	1,196,000.00	
Texas-Mexican Railway stock	2,476,250.00	
Brownsville & Gulf Railway stock	25,000.00	
Texas-Mexican Northern Railway stock	100,000.00	
		4,045,250.00
Mexican National Railway's stock held for conversion of Texas-Mexican stock		23,750.00
Texas-Mexican Railway note	$209,387.79	
Texas-Mexican Railway coupons	121,460.00	
	330,847.79	
Less coupons in suspense	121,760.00	
		209,087.79
Balance to general balance sheet		1,533,555.93
Total		77,420,000.00
Capital stock		33,350,000.00
Bonded debt:		
First-mortgage bonds	$12,500,000.00	
Second-mortgage bonds (A and B)	24,530,000.00	
Third-mortgage bonds (income)	7,040,000.00	
		44,079,000.00
Total		77,420,000.00

INCOME ACCOUNT.

Disbursements.

Operating expenses (including Texas-Mexican Railway Company), were $2,927,961.89 in Mexican currency, which, reduced at 80 per cent., gives	2,342,369.51
Interest and discount	17,067.92
Increasing number of ties and ballasting	69,305.14
Replacement of rails	22,435.81
Replacement of locomotives	16,414.37
Expenses of London agency	6,399.44

Expenses in collection and distribution of subsidy	$4,031.51
Balance to net revenue account	504,185.94
Total	2,982,209.64

Receipts.

Gross earnings (including Texas-Mexican Railway Company) were $3,754,966.36, less Federal Government earnings (uncollected) of $45,542.56, leaving as net earnings $3,709,423.80, in Mexican currency, which, reduced at 80 per cent., gives	2,967,539.04
Exchange	14,670.00
Total	2,982,209.64

NET REVENUE ACCOUNT.

Interest on first-mortgage bonds:	
6 months to June 1, 1890	372,000.00
6 months to December 1, 1890	375,000.00
Accrued interest for month of December, 1890	62,500.00
Total	809,500.00

Net earnings of railroad during 1890, as per statement	504,185.94
Received from trustees of subsidy account of interest deficiency for year 1890	305,314.06
Total	809,500.00

GENERAL BALANCE SHEET.

Assets.

Second-mortgage bonds (A and B)		200,000.00
Texas-Mexican bond purchase of 184 Texas-Mexican 6 per cent. bonds, 712 Corpus Christi, San Diego, and Rio Grande 7 per cent. bonds at cost price, and expenses in connection therewith		763,670.27
Cash:		
New York	$39,988.20	
Mexico—J. M. Fraser, resident-treasurer, $160,082.78, and remittances in transit, $51,681.70, making a total of $211,764.48, in Mexican currency, which, reduced at 80 per cent., gives	169,411.58	
		209,399.78
Accounts receivable		352,122.21
Express property		2,091.73
Texas-Mexican State lands		15,024.50
Materials on hand		427,801.58
Total		1,970,110.07

Liabilities.

Balance from capital account		1,533,555.93
Pay rolls (Mexico office)	$112,544.89	
Vouchers:		
Mexico office	102,268.96	
New York office	3,039.60	
	217,853.45	

Accounts payable	$132,710.69	
Accrued interest for month of December, 1890	62,500.00	
Coupons of first mortgage bonds outstanding	23,490.00	
		$436,554.14
Total		1,970,110.07

Tables howing the earnings by divisions for the year ended December 31, 1890, in Mexican currency.

Sources.	Main line.	El Salto.	Matamoros and Brownsville.	Texas-Mexican.	Total.
Freight:					
Ordinary (including Government)	$2,331,793.95	$88,563.24	$16,571.70	$206,854.39	$2,643,783.28
Construction	11.34	24.22			35.56
Total freight	2,331,805.29	88,587.46	16,571.70	206,854.39	2,643,818.84
Passenger:					
Ordinary (including Government and baggage)	812,323.24	21,316.42	10,303.71	47,643.80	891,587.17
Express	119,795.24	3,075.46	550.21	5,730.09	129,151.00
Mails (United States)				10,436.24	10,436.24
Total passenger	932,118.48	24,391.88	10,853.92	63,810.13	1,031,174.41
Miscellaneous:					
Telegraph	16,888.43	627.78	225.14	2,768.57	20,509.92
Sundry sources	44,138.84	1,167.70	250.00	3,517.45	49,073.99
Cintura branch	10,389.20				10,389.20
Total miscellaneous	71,416.47	1,795.48	475.14	6,286.02	79,973.11
Total earnings	3,335,340.24	114,774.82	27,900.76	276,950.54	3,754,966.36
Total earnings for 1889	3,251,701.43	106,680.04	33,408.97	268,333.80	3,660,124.24
Increase	83,638.81	8,094.78		8,616.74	94,842.12
Decrease			5,508.21		

Table showing the expenses by divisions for the year ended December 31, 1890, in Mexican currency.

Description.	Main line.	El Salto.	Matamoros and Brownsville.	Texas-Mexican.	Total.
Conducting transportation	$739,527.99	$13,478.25	$9,418.30	$86,647.46	$849,072.00
Motive power	1,142,279.85	14,392.38	7,739.95	76,094.66	1,240,506.84
Maintenance of cars	156,898.95	2,197.64	736.53	11,935.95	171,769.07
Maintenance of way	372,577.68	14,229.00	5,471.32	66,763.50	459,041.50
Extraordinary expenses	1,294.08	150.00		1,476 36	2,920.44
General expenses	177,000.11	1,973.98	1,596.08	24,081.87	204,652.04
Total	2,589,578.66	46,421.25	24,962.18	266,999.80	2,927,961.89
Total for 1889	2,639,645.65	42,319.45	24,311.50	287,154.94	2,993,431.54
Increase		4,101.80	650.68		
Decrease	50,066.99			20,155.14	65,469.65

Table showing the net earnings by divisions for the year ended December 31, 1890, in Mexican currency.

Lines.	1889.	1890.	Increase or decrease.
Main line	$612,055.78	$745,761.58	+$133,705.80
El Salto	64,360.59	68,353.57	+ 3,992.98
Matamoros and Brownsville	9,097.47	2,938.58	— 6,158.89
Texas-Mexican	*18,821.14	9,950.74	+ 28,791.88
Total	666,692.70	827,004.47	+ 160,311.77

*Loss.

Table showing the number of miles run by trains for 1889 and 1890.

Description.	1889.	1890.
	Miles.	*Miles.*
Passenger trains	874,030.84	854,105.37
Freight trains	1,220,769.60	1,173,479.60
Work trains	89,743.23	47,796.40
Mixed trains	222,534.34	364,865.35
Total	2,407,078.01	2,440,246.72
Revenue trains	2,317,334.78	2,392,450.32
Engines	2,920,181.13	3,183,433.23
Distance operated	1,218.59	1,218.59

Table showing earnings and expenses per train mile for 1889 and 1890, in Mexican currency.

Description.	1889.	1890.
Gross earnings per mile	$3,003.57	$3,081.40
Operating expenses per mile	2,456.47	2,402.74
Net earnings	547.10	678.66
Gross earnings by revenue trains per mile	1.57 91/100	1.56 19/20
Operating expenses by revenue trains per mile	1.29 3/50	1.22 2/25
Net earnings	.28 17/20	.34 87/100

Table showing the passenger equipment for the year ended December 31, 1890.

Description.	Number.	Description.	Number.
Special service cars	6	Third-class cars	35
Special kitchen and dining (combination) cars	1	Third-class and baggage (combination) cars	6
Chair cars	3	Baggage cars	4
First-class cars	15	Baggage and express (combination) cars	9
First and second class (combination) cars	17	Baggage, express, and mail (combination) cars	11
Second-class cars	22	Total	131
Second and third class (combination) cars	2		

Besides the above, there are passenger cars not used in passenger train service, used by working crews, etc., including 2 condemned and 2 sold, in all 12, making a total of 143.

Table showing the freight equipment for the year ended December 31, 1890.

Class.	Capacity.				Total.
	22,000 tons.	24,000 tons.	30,000 tons.	40,000 tons.	
	Number.	*Number.*	*Number.*	*Number.*	*Number.*
Box cars	320	229	134	385	1,068
Stock cars	139	36	15	92	282
Coal and ore cars	13	55		75	143
Flat cars	238	206		190	634
Rack and open top stock cars	14	62			76
Water cars (iron and wooden tanks)		5		22	27
Cabooses	47				47
Pile-drivers		3			3
Derricks		1			1
Total	771	597	149	764	2,281

Of the above freight cars, 46 are not employed in freight traffic for the reasons given, to wit:

Box cars used exclusively in work-train outfits, not serviceable for anything else	15
Box cars used as cabooses	5
Box cars used as offices, section houses, and warehouses	17
Box cars to be condemned, old and not worth repair	1
Stock cars condemned, old and not worth repair	1
Coal cars condemned, old and not worth repair	2
Flat cars condemned, old and not worth repair	5
Total	46

Table showing the make, class, size, and date of entry into service of locomotives for the year ended December 31, 1890.

Number.	Make.	Class.	Size of cylinder.	Drivers.		Date of entry into service.
				Diameter.	Number to each locomotive.	
			Inches.	*Inches.*		
1	Baldwin	Consolidation	16 by 20	32	8	May, 1881.
2	do	Mogul	11 by 16	32	6	June, 1880.
3	do	American 8 wheel	11 by 16	38	4	Do.
4	do	Mogul	11 by 16	32	6	January, 1881.
7	Brooks	American passenger	12 by 16	38	4	April, 1879.
9	Baldwin	Consolidation	15 by 18	32	8	June, 1879.
10	do	do	16 by 20	32	8	April, 1882.
11	do	do	16 by 20	32	8	September, 1881.
12	do	do	16 by 20	32	8	July, 1881.
13	do	do	16 by 20	32	8	May, 1881.
14	do	do	16 by 20	32	8	Do.
15	do	Mogul	14 by 20	40	6	August, 1881.
16	do	do	14 by 20	40	6	November, 1881.
18	do	do	14 by 20	40	6	Do.
19	do	do	14 by 20	32	6	August, 1881.
20	do	Decapod	16 by 20	32	10	June, 1882.
21	do	do	16 by 20	32	10	January, 1882.
22	do	Switch	14 by 18	32	6	November, 1881.

Table showing the make, class, size, and date of entry into service of locomotives, etc.—Cont'd.

Number.	Make.	Class.	Size of cylinder.	Drivers.		Date of entry into service.
				Diameter.	Number to each locomotive.	
			Inches.	*Inches.*		
23	Baldwin	Switch	14 by 18	32	6	December, 1881.
24	do	Mogul	14 by 20	40	6	Do.
25	do	do	16 by 20	32	8	May, 1881.
27	do	do	14 by 20	32	6	August, 1881.
30	do	Consolidation	16 by 20	32	8	December, 1881.
31	do	do	16 by 20	32	8	November, 1881.
32	Hinkley	Mogul	12 by 20	31	6	April, 1881.
33	do	do	12 by 20	31	6	Do.
34	Baldwin	Consolidation	16 by 20	32	8	July, 1882.
35	do	do	16 by 20	32	8	January, 1882.
37	do	Mogul	14 by 20	40	6	December, 1882.
38	do	do	14 by 20	40	6	February, 1882.
40	do	Consolidation	16 by 20	32	8	January, 1884.
41	do	Mogul	14 by 20	40	6	June, 1882.
42	do	Switch	14 by 18	32	6	August, 1883.
43	do	do	14 by 18	32	6	October, 1883.
44	do	Consolidation	16 by 20	32	8	July, 1883.
45	do	do	16 by 20	32	8	Do.
46	do	do	16 by 20	32	8	Do.
47	do	do	16 by 20	32	8	Do.
48	do	do	16 by 20	32	8	Do.
49	do	do	16 by 20	32	8	Do.
50	do	do	16 by 20	32	8	August, 1883.
51	do	do	16 by 20	32	8	Do.
52	do	do	16 by 20	32	8	Do.
53	do	do	16 by 20	32	8	September, 1883.
54	do	do	16 by 20	32	8	August, 1883.
55	do	Mogul	14 by 20	32	6	November, 1881.
56	do	Consolidation	16 by 20	32	8	September, 1883.
57	do	do	16 by 20	32	8	August, 1883.
58	do	do	16 by 20	32	8	February, 1884.
59	do	do	16 by 20	32	8	June, 1887.
60	do	do	16 by 20	32	8	Do.
61	do	do	16 by 20	32	8	April, 1887.
62	do	do	16 by 20	32	8	July, 1887.
63	do	do	16 by 20	32	8	March, 1887.
64	do	do	16 by 20	32	8	Do.
65	do	Mogul freight	14 by 20	32	6	June, 1883.
66	do	Mogul passenger	14 by 20	40	6	Do.
67	do	do	14 by 20	40	6	July, 1883.
68	do	Consolidation	16 by 20	32	8	January, 1884.
69	do	do	16 by 20	32	8	February, 1884.
70	do	do	16 by 20	32	8	December, 1883.
71	do	do	16 by 20	32	8	April, 1884.
72	do	do	16 by 20	32	8	December, 1883.
101	do	10-wheel passenger	14 by 20	40	6	September, 1887.
102	do	do	14 by 20	40	6	October, 1887.
103	do	do	16 by 20	42	6	January, 1888.
104	do	do	16 by 20	42	6	Do.
105	do	do	16 by 20	42	6	February, 1888.
106	do	do	16 by 20	42	6	Do.
107	do	do	16 by 20	42	6	Do.
108	do	do	16 by 20	42	6	Do.
109	do	do	16 by 20	42	6	Do.
110	do	do	16 by 20	42	6	Do.
111	do	do	16 by 20	42	6	Do.

Table showing the make, class, size, and date of entry into service of locomotives, etc.—Cont'd.

Number.	Make.	Class.	Size of cylinder.	Drivers.		Date of entry into service.
				Diameter.	Number to each locomotive.	
			Inches.	*Inches.*		
112	Baldwin	10-wheel passenger	16 by 20	42	6	February, 1888.
113	do	Consolidation "O" frame.	16 by 20	32	8	January, 1888.
114	do	do	16 by 20	32	8	October, 1888.
115	do	do	16 by 20	32	8	Do.
116	do	do	16 by 20	32	8	November, 1888.
117	do	do	16 by 20	32	8	Do.
118	do	do	16 by 20	32	8	Do.
119	do	10-wheel passenger	16 by 20	42	6	October, 1888.
120	do	do	16 by 20	42	6	Do.
121	do	do	16 by 20	42	6	Do.
122	do	do	16 by 20	42	6	Do.
123	do	do	16 by 20	42	6	Do.
124	do	do	16 by 20	42	6	Do.
125	do	do	16 by 20	42	6	Do.
126	do	do	16 by 20	42	6	Do.
127	do	do	16 by 20	42	6	Do.
128	do	do	16 by 20	42	6	Do.
129	do	do	16 by 20	42	6	May, 1889.
130	do	do	16 by 20	42	6	Do.
131	do	do	16 by 20	42	6	Do.
132	do	do	16 by 20	42	6	Do.
133	do	do	16 by 20	42	6	Do.
134	do	do	16 by 20	42	6	Do.
135	do	do	16 by 20	42	6	Do.
136	do	do	16 by 20	42	6	Do.
137	do	do	16 by 20	42	6	Do.
138	do	do	16 by 20	42	6	Do.
139	do	Consolidation "O" frame.	16 by 20	32	8	July, 1889.
140	do	do	16 by 20	32	8	Do.
141	do	do	16 by 20	32	8	Do.
142	do	do	16 by 20	32	8	Do.
143	do	do	16 by 20	32	8	Do.
144	do	10-wheel "O" frame	16 by 20	42	6	November, 1890.
145	do	do	16 by 20	42	6	Do.
146	do	do	16 by 20	42	6	Do.
147	do	10-wheel compound	(*)	42	6	Do.
148	do	10-wheel passenger	15 by 20	42	6	Do.
149	do	do	15 by 20	42	6	Do.
150	do	do	15 by 20	42	6	Do.
151	do	do	15 by 20	42	6	December, 1890.

* Upper, 17 by 20 inches; lower, 10 by 20 inches.

Engines Nos. 5, 6, 8, 17, 26, 28, 36, and 30 were suspended from service account, being too light to warrant repairs.

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Nuevo Laredo, April 20, 1891.

CURING CODFISH IN FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

France is preëminently a fish-eating country. Two reasons may be assigned for this fact. The first is a rather arbitrary one, and may be assigned to natural inclination or a marked degree of taste in that direction. The second is more evident. France being a Catholic country, at least 1 day in every week—and very often more—is consecrated to abstinence from flesh meat. The consumption of fish, accordingly, remains not only great, but almost invariable year in and year out. Fresh fish are eaten in quantity in the larger cities, at the seaports, and along the coast, where they are plentiful, cheap, and always wholesome. In the interior, however, in the smaller and remote villages distant from both coast and water way, and especially among the peasantry, preserved or salted fish must of necessity take the place of the freshly caught article. In these last-named districts salt fish becomes the chief staple.

At the port of Bordeaux alone during the year 1890 there were discharged from vessels of various nationalities 61,136,165 pounds of salt fish, the greater part of which was cod.

Fresh codfish is a commodity unknown in France. *Morne verte*, which might be translated literally as green codfish, is the name given to that quality of fish prepared and salted aboard the Newfoundland fishing smacks and barreled and shipped in bulk to France. It is cooked and eaten after having been immersed for several hours in water. If, however, it is desirable to place upon the market for ordinary consumption a fish thoroughly cured, salted, and dried, the *morne verte*—which rapidly lose their virtue—are again dried and undergo more careful preparation in France, from whence they are afterwards exported in great quantities to Spain, Italy, Belgium, Russia, and, in short, to every country on the Continent.

The codfish-drying industry is by no means an unimportant one in Bordeaux, where are annually prepared for general European and home consumption more than 12,000,000 cod, an equivalent of 20,000 tons and representing in value $2,000,000. The establishments for codfish-curing at this city are situated in the near environs. At Begles, a little village a few miles distant, twenty-four separate factories are found.

A distant view of these curing establishments, or rather the fields surrounding them, convey the idea of a vast vineyard. Line upon line, row upon row of wooden and wire trellises from 3 to 4 feet in height extend across the undulating plain as far as the eye can reach, and upon these rudely constructed frames are hung innumerable fish, their split and divided surfaces exposed to the warm sunlight of early spring or the dry breezes of autumn.

Upon receiving at the factories the crudely prepared fish, covered merely with a light layer of salt, adhering in crystals to the half-moist surface, the first process consists of removing this incrustation with an ordinary hard scrubbing brush and cold water, the cod being placed and firmly held upon a rough pine table for the purpose.

Until quite recently it has been customary in the various fish-drying establishments throughout the southwest or lowlands of France to cleanse the codfish by soaking the same in water barrels for a protracted period, the method being more economical than beneficial. In the flat, rolling country, the prairie lands, and marshes of this district water is far from abundant, brooks and stagnant pools serving as best they may for washing purposes, while wine alone is the beverage. But in the city of Bordeaux and its environs water is comparatively plentiful, and a few years since, municipal investigation into the fish-curing industry proving the unhealthy results that might possibly accrue from the repeated cleansing of salt fish in the same water, each and every person engaged in the pursuit was obliged to lay mains or water conduits from the nearest or most convenient source of supply, in order that fresh water alone might be employed.

Subsequently, and in conformance to the established regulations, there have now been constructed within the greater number of these factories long, narrow tanks, or sluices, built of stone or marble, about 5 feet in width and 2 in depth. A continuous stream of water is forced through these tanks, usually by the aid of a 1 horse-power engine; and inspectors require that an average of 288 to 311 gallons of water shall be used in the cleansing of 2,200 pounds of fish. At the sides are inclined deal-board tables, at which kneel those engaged in washing the fish.

After a vigorous and thorough scrubbing the cod are laid aside in great piles to await a day favorable to open-air exposure. Bright, clear weather, moderate temperature, and a slight northeasterly breeze are the most desirable conditions for drying, and these occur most frequently in the months of March, April, and October. Some of the midwinter months offer at times the required atmosphere, while the summer days, on the contrary, in the south of France are usually laden with too great a degree of humidity to be altogether propitious. Two days' exposure to the sun is counted sufficient, and it is estimated that about 150 days in each year present meteorological conditions favorable for drying.

Codfish, when ready for shipment, are packed in bales of 110, 132, and 176 pounds, representing from forty-five to seventy-five fish. Almost all of the smaller cod, those from 12 to 16 inches in length, are bought by, and shipped to, the Italian market. These, also, are of inferior quality, for it is evident that the Italians are not so fastidious in their tastes as their neighbors across the Mediterranean—the Spaniards—to whom not only are shipped the best quality, but the greatest quantity of codfish from France. To the former the fish are sold with the black outer skin undetached, while to the latter the same are not marketable unless this integument is removed. Hence we find that the charges made on 220 pounds of fish by the drying establishments to the dealer are itemized as follows: Drying, etc., 50 cents; removing skins, 20 cents; packing, 30 cents. And here it may be observed, by way of parenthesis, that codfish-curing in France is an industry distinct in itself, the crudely salted merchandise being merely sent by the dealer or importer to the cleaning and drying establishments and returned to him by them as early as the weather will permit.

The fish-drying industry in the immediate neighborhood of Bordeaux gives employment to about 600 people, each employing, on an average, 20 workmen; and it may be roughly estimated that these are capable of washing, cleaning, and drying 55,000 pounds of fish per day. The men employed receive 70 cents and the women, who occupy themselves alone with removing the black skins of the fish, 30 to 40 cents per day.

The south of France is the principal market for prepared codfish. To Spain is exported annually about 11,000 to 15,000 tons; to Italy, about 2,000 tons. The Antilles, Algeria, and Portugal follow in their respective order.

The preceding report upon the method of codfish-drying practiced in this vicinity has necessarily been a brief one, the industry, owing to the primitive manner in which it is carried on, admitting of little expansion, certainly of but limited description.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, April 8, 1891.

DUBLIN NATIONAL AGRICULTURAL EXHIBITION.

REPORT BY CONSUL REID.

The Royal Dublin Society is one of the institutions of Dublin, and, for that matter, of Ireland. It has been in existence for many years, its purpose being to promote agricultural and other industrial interests of Ireland. Its membership is made up of the leading men from all parts of the country, who, as a rule, take an active interest in its affairs. It is a wealthy organization and has fine buildings on Kildare street, in the central part of the city, which are provided with an extensive and well-selected library. It also has extensive grounds at Ball's Bridge, at the outskirts of the city, embracing an area of 27 acres. These grounds are provided with extensive and permanent buildings specially arranged to suit the purposes for which they were designed and constructed. Upon these grounds and buildings have been expended upwards of £40,000. It is said by those who are competent to judge that the ground and buildings of this society are unrivaled by anything of the kind in the United Kingdom. All the industrial and agricultural exhibitions and important horse and cattle shows, etc., in Ireland are held under the auspices of this society and upon its grounds in Dublin. Several exhibitions occur annually, the most important of which, however, are the horse show in the autumn season and the exhibition of cattle, farm horses, pigs, sheep, dogs, and machinery in the spring of the year. These exhibitions are patronized by the people, not only from all parts of Ireland, but from other parts of the United Kingdom as well. The annual show of the latter description was held this year from March 31 to April 2, inclusive.

Having devoted a day to the exhibition in question, I am enabled to make the following brief report as the result of my observations:

CATTLE.

This branch, of course, constitutes an important factor of the exhibition. This would naturally be the case, as the cattle interest is the most important and profitable of any branch of farming in Ireland. The annual cattle product of Ireland is upwards of £50,000,000 in value, a sum considerably more than all other agricultural products combined, and the exports in this line to England are considerably greater than from all other countries combined, including the British colonies.

The show of cattle on the occasion mentioned was very creditable and indicated that a good deal of intelligent attention is being given to the general introduction of the best breeds. The following table shows the number of each class on exhibition and the money prizes awarded to each group:

Breed.	Number.	Value of prizes.
Shorthorn	248	£161
Hereford	23	63
Aberdeen Angus	43	55
Red Polled	16	36
Ayrshire	9	30
Kerry	79	57
Dexter	34	21
Jersey	57	46
Guernsey	6	21
Derry	6	16

The show of cattle, in numbers and quality, at the recent exhibition was a little above the average. As may be judged from the comparatively large number, the Shorthorns are the favorite breed of cattle in Ireland, as beef producers, of course. The great majority of the 248 Shorthorns exhibited were bulls of all ages, from calves up to the oldest eligible for competition. In fact, it was substantially a bull show, showing that a great deal of attention is being given to bull-breeding. The quality of these animals, which is said to be improving every year, is of the very highest and, I believe, is not surpassed in any country.

The Herefords are also coming to be a favorite beef cattle here and are good for but little else. Although the number shown was not large, they were very select. Last year the show of Herefords was larger, including a herd from the stables of the Queen. The other favorite beef-producers of which there was a creditable exhibit were the Aberdeen Angus, or Black Polls, and the Red Polls. The former especially is steadily gaining ground in Ireland, while the latter finds some favor as dairy cattle as well.

The attention which is being given to the breeding of these high grades of cattle in Ireland is bearing fruit, as a look over the stock yards in Dublin or elsewhere on any market day will demonstrate. The cattle, as they pass into the butchers' hands, are uniformly of excellent quality and would pass as prize cattle at many exhibitions; for example, I happened to learn of one sale that was made at the stock yards here recently where a herd of 6 brought the owner an average of £16 each in cash, and the ruling prices being at present very low here as elsewhere. The average value of the 4,240,753 cattle produced in 1890 was, according to reliable authority, £12 6*s.* 1*d.*, or $59.88, each.

The favorite dairy breeds in Ireland are the Jerseys and Kerries. I have never seen a finer representation of Jerseys than at the recent show here, and I question if they could be surpassed in any country, all thoroughbreds and of the finest quality. The Kerries, of course, are a purely Irish breed and have always been favorites, ranking, in fact, as milkers and butter-producers scarcely second to the Jerseys. The Kerries are a very small, black, hardy cattle, which derive their name from the county of Kerry, in the south of Ireland, where they have been most extensively bred. Not a little of the fame of the Cork butter is due to this excellent breed of cattle.

The Ayrshires, Guernseys, and Dexters (the latter being a collateral branch of the Kerry family) are also coming into notice as desirable dairy cattle, but as yet they rank considerably below the breeds above mentioned. However, they possess a merit that can not be urged for the Jerseys and Kerries, that they are fair beef-producers.

SWINE.

Under this head there were upwards of 100 entries, and there was awarded in the way of premiums £118 by the Royal Dublin Society and £125 by the Pig Improvement Association; total, £243. The pig industry is also a very important one in Ireland, the fame of the Irish hams and bacon being known far and wide and being largely exported to England, Scotland, and France. The total product of the island in 1890 was 1,570,279, representing a value of £4,399,025. The white Yorkshire and Berkshire are the favorite breeds, the former being latterly preferred. The pig which is most sought after by curers is white, long sided, with light shoulders and head, small bones, and with a preponderance of lean flesh. By lean flesh it is not meant that the animal should be insufficiently fed, but, as the lean flesh comes from the breed of the animal more than from the feeding, the most successful breeder pays particular attention to securing a suitable breed. Then, with good feeding and proper attention, accompanied with moderate exercise in the earlier stages of feeding, the results described are the best secured. The points which determine a well-bred pig here are: Hams—wide, deep, and full to the back; sides—long and deep; shoulders—thin and light; head—wide between the ears; snout—longish and slightly dished; jowl—very light; ears—to be inclined forward, not to hang down; hair—long, fine, and silky, without bristles; color and bone—color to be white, bone not to be too strong nor yet too light, may be stronger in the boar.

HORSES.

The show of agricultural horses was excellent, but not extensive, there being 43 entries. The premiums distributed amounted to £185. The favorite breeds here are the Clydesdales and Shires, some fine stallions and brood mares having been exhibited; also some excellent specimens of draft horses, polo ponies, and asses. The great exhibition of horses, as I have stated, occurs later in the season.

DOGS.

A very important feature of the recent exhibition falls under this head, the total number of entries being 822. A large section of the buildings was given up to this purpose. In this country a good deal is made of the dog, as he is largely used for sporting and utilitarian purposes. The breeds exhibited some fine specimens of mastiffs, bloodhounds, St. Bernards, Newfoundlands, Great Danes, Irish wolf hounds, deerhounds, greyhounds, pointers, Irish setters, fox terriers, Irish terriers, Airedale terriers, Skye terriers, Dandie Dinmont terriers, Yorkshire or toy terriers, dachshunds, Blenheim spaniels, pugs, poodles, etc. A large number of valuable prizes were awarded in the way of money and silver cups. Thoroughbred dogs command a high price, even where they are supposed to be most numerous; for example, one of the dogs on exhibition, an Irish setter, was sold to the Earl of Shannon for £120.

AMERICAN AGRICULTURAL MACHINERY EXHIBIT.

This department constituted the most extensive single feature of the exhibition, and the space taken up for this purpose covered acres of ground, the arrangements being complete for all competitors. The list of competitors included but few Irish manufacturing firms, because there are but few of them. However, the fact of the presence, in large numbers, of extensive British manufacturers, and some leading American firms as well, in their immediate and expert representatives or in the persons of their Irish agents, plainly indicates that the Irish trade in the way of all sorts of agricultural implements and labor-saving machinery is worth looking after. It would be difficult and would require great space to enter into any considerable particulars under this head. Suffice it to say, in the main, that the exhibit covered the entire modern field of labor-saving implements and machinery, and in all departments there was as great, or perhaps greater, competition than is witnessed at a successful State fair in the United States. The dairy department especially received great attention and commanded marked and unusual interest. All sorts of goods and modern devices for working out results were exhibited, including cream-separators, milk-setters, butter-markers, and an infinite variety of churns and other articles too numerous to mention. Under all these heads American products were liberally represented and attracted their share of attention, especially including churns, butter-workers, cedar tubs, cedar milking pails, etc. (the sweetest wood for dairy use). One department was specially fitted up for practical dairy working. An expert young Englishwoman was in charge of this, who conducted the process of butter-making through all of its various stages, each step being accompanied by explanatory remarks. One point which contributes largely to desired results is that the hand of the operator never touches the butter. It is said that by the use of the hand heat is conveyed which breaks the minute grains of the butter, thus spoiling its preservative qualities, while the perspiration from the hands affects the product in a similarly injurious manner. Certainly the quality, being the very best, justifies the method pursued, and which is now highly commended by expert judges. Uniform temperature of material is also urged throughout the entire process of butter-making as being highly important. These practical lectures to the public have been instituted by the society as a means of promoting the general dairy interests of the country.

The exhibit of farm machinery and implements included 133 different stands, and, as I have stated, included everything known to modern farming industry and calculated to make it less laborious and more remunerative. In many departments American products were liberally represented and attracted a good degree of attention. In this line should be specially mentioned the mowers, reapers, and binders of Walter A. Wood, the McCormack reapers and binders, and the Buckeye mower and reaper. There is no doubt of the superiority of these machines over all competitors on this side. They are simpler in design, lighter of draft, easier of management, better finished, and, although somewhat lighter perhaps, are sufficiently strong for every test. These machines, particularly those manufactured by Wood, are great favorites here and have a wide sale. The introduction of the single-apron binder in the Wood machine is very much thought of here, being economical in its operation and promotive of the most satisfactory results.

In some other kinds of farm machinery I noticed a marked difference between the American and British products, the latter being much heavier and stronger. This is particularly true of hay-saving machinery and grain-separators. The trade in American hay rakes might be considerably extended here if they were made heavier and stronger, on account of the heavier crops grown, which make these requirements absolute. One of the best exhibits in that line on the grounds was that by the Oliver Chilled Plow Works, of South Bend, Ind. There was a considerable number of their famous chilled plows shown, and all were finished in most superb style, the shining mold-boards and the elaborately decorated woodwork making them almost fit for parlor ornaments. The fame of these plows being known far and wide, they are favorites here as elsewhere. There have been many imitations of the

Oliver chilled plow, but it still holds the front place in all markets. The moldboard especially is imitated, but there seems to be a preference in this country for the steel beam on account of its alleged greater durability.

American lawn-mowers were largely exhibited and are easily superior to those manufactured on this side. The Pennsylvania is a favorite here and has a wide sale.

The exhibition was otherwise varied and extensive, including a fine display of steam-engines, traction engines, water-wheels, sewing machines, sheep-shearing machines, vehicles, bells, and other foundry products for which Dublin is famous, and novelties without number. In water wheels and sewing machines American products were well represented and suffered nothing from comparison with foreign competitors. The exhibition, as a whole, was a fine success and would have done credit to any country.

ALEX. J. REID,
Consul.

UNITED STATES CONSULATE,
Dublin, April 15, 1891.

AMERICAN FIBER WARE IN MEXICO.

REPORT BY CONSUL DRAYTON, OF TUXPAN.

I have the honor to report, for the information and interest of the fiber-ware manufacturers of the United States (particularly, in this case, those of Mankato, Minn., and Lockport, N. Y.), that there is some misunderstanding or disagreement in the classification and manifestation of their manufactured fiber ware in this custom-house, the duties on them being placed so high that they are unsalable.

The goods are manufactured as wood or wooden fiber ware, but the custom-house classifies them as paper or pasteboard ware, which pays a duty of 45 cents per kilogramme; wood, [illegible]0 cents; copper, 30 cents; iron, 20 cents; brass, 30 cents; zinc, 20 cents; and leather, 60 cents per kilogramme; consequently, they are classed next to leather in duties. Therefore, these buckets or goods, after paying their duties, can not be sold for less than $1.50 apiece, which makes them unmarketable, and, as fines have been imposed on them for being manufactured as wooden fiber, it brings the cost price so high that they can not be sold at all for less than $3 apiece, which is a prohibition on the dealers in such articles.

The merchants who have imported these goods have complained to the Government about it, but, not having received any answer to their complaints, they have concluded not to introduce any more until some regulations are made about the classification of such goods.

JOHN DRAYTON,
Consul.

UNITED STATES CONSULATE,
Tuxpan, April 8, 1891.

THE ARGENTINE FINANCIAL SITUATION.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

I have the honor now to inform you that last week the Government received official confirmation from Dr. Plaza, its agent in London, that the national loan, which has so long been hanging fire, had at last been arranged and consummated, thus, with the proceeds, providing for the interest on the foreign debt for the next 3 years and giving the nation time to "take a long breath" and otherwise strengthen its financial condition.

It was supposed that with this assistance the immediate situation would be considerably improved; but the Argentine people had not recovered from its rejoicings when it was confronted with the intelligence that the National Bank and the Bank of the Province of Buenos Ayres, the two great financial institutions of the country (the first accredited with a capital of $40,000,000 and the other of $32,000,000, and each with deposits amounting, respectively, to double those sums), owing to bad management and reckless loans to Government favorites and political men of straw, were "in distress" and unable to meet the calls of their depositors, and that, unless the Government came to their relief, they would be compelled to close their doors, thus suggesting, if not opening, the way to an uprising among the thousands of workingmen who had placed their earnings in those banks for safe-keeping. The President, appreciating the situation, called a meeting of the members of the Bolsa, or Buenos Ayres Exchange, and suggested two alternatives for tiding over the trouble: either to make another issue of paper money of $100,000,000 in national money or to effect a home loan for that amount. Fearing that utter ruin would ensue to the country from still further watering the depreciated currency, a committee, after a full consideration of the matter, decided in favor of an immediate popular loan, the Government providing a week of bank holidays until the subscriptions therefor could be arranged. I inclose translations of the appeal of the committee and of the Government decree in reference to the terms of the loan. By extraordinary efforts (the foreign banks doing the most of the subscribing and the wealthiest natives very little of it) about $40,000,000 of the amount proposed has been raised, and the National Government, though needing more, has accepted the same at 75 cents on the dollar, the interest being 6 per cent., and the amortization 2 per cent., per annum.

Thus reinforced the banks in question opened their doors again on Friday last and have resumed their ordinary course of business, the run upon them thus far being of no great significance. There is no doubt that this action on the part of the President and the liberal advances made by the people have considerably eased the tension and lessened the acuteness of the situation. The premium on gold at once went down from $3.75 to $3.35, and there seems to be a better feeling in commercial circles, many, indeed, now assuming, with the assistance which the Government has received at home and from abroad, that the crisis is now over. But not so does it appear to me. I look upon all these expedients as merely postponing the day of ultimate liquidation and collapse, unless the Government at once shuts down on the present system of banking and gets rid of the existing fraudulent currency. That the foreign population, in a great degree, share these fears will be seen from the articles which I herewith inclose from the Buenos Ayres Herald and Buenos Ayres Standard.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, March 14, 1891.

THE INTERNAL LOAN.—MANIFESTO OF THE COMMITTEE AND PATRIOTIC APPEAL.

[Inclosure 1 in Consul Baker's report.]

BUENOS AYRES, *March 9, 1891.*

To the people of the Republic:

After a long period of expectation, the exterior financial arrangements have now come to a conclusion, thus saving the credit and honor of the nation and giving our country the necessary relief, so that our strength, debilitated by the crisis, may be restored; but the crisis had advanced too far. Panic, threatening to ruin our greatest institutions, would prove the greatest of all disasters.

The "Camara Sindical," understanding the gravity of the situation, could not abandon the post marked as its own by the common danger, and convoked a meeting of the principal bankers, merchants, and business men to strengthen its views and advise on the course to be pursued. This meeting, comprehending the gravity and urgency of the situation, delegated full powers to this committee, so as to arrive more quickly and efficaciously at a conclusion.

From that moment this committee, in permanent sitting, has done its best to discover a course capable of mastering the great evil overhanging all. In its opinion, this could only be effected by one united effort of the people to subscribe the necessary funds or by an emission to enable the Government to satisfy its most urgent necessities.

The committee considered that a new emission at the present moment, when the depreciation of trust money is so enormous, would occasion greater evils and, whilst preserving certain interests of value to the minority, would ruin all the inhabitants of the Republic.

This idea, then, being unanimously rejected, the loan remained as the only method of salvation, and the committee did not hesitate a moment in accepting it.

When presented to the Government, the project was adopted, and now it only requires the support of the public to become a reality. The security to be given for this internal national loan is the most solid and well guarantied that has yet been issued in the Republic. It has the guaranty of the nation and of the banks receiving the money, in addition to the guaranty of the bills and securities to be handed over as security for the advances to be made.

Besides these securities, it has another of the greatest importance—the product of the loan will go directly into the "Caja de Conversion," which is directed by citizens of unstained probity and most honorable antecedents, who have the exclusive management, handling of, and guard over, the moneys subscribed by the public to this loan.

Thus, then, the loan is in itself an excellent business.

Taking the figure at 75, with 6 per cent. interest, it will give an annual interest of 8 per cent. Its accumulative amortization of 2 per cent. per annum and its interest are solidly secured, because the Caja de Conversion will receive the same in advance from the banks, which will make the rediscount from their funds; consequently, this loan, as a commercial operation, is solid and lucrative. But its economical aspect, that is to say, its salutary influence over the welfare of the country is more important still. The loan will avoid a new emission, which would still further depreciate our currency and would reduce the fortune of every inhabitant of this country to the third or fourth part of what it is to-day.

The loan will preclude this enormous loss, and every subscriber to it will secure his own fortune by a solid and lucrative operation. The conflict being thus settled and general peace of mind restored, this loan will prove a fresh economic force which will serve to combat the crisis by facilitating discount by the banks, thus serving to restore to commerce, to trade, and to production in general that capital which is now withdrawn.

The committee wishes to lay down one final and most important consideration in asking the public to subscribe to this loan. When a nation, in the sorrowful situation in which we now are, has the virility to make a supreme effort to save itself, it thereby conquers the sympathy and admiration of the world and shows itself, even in its misfortunes, worthy of respect. France, redeeming its territory with its loan, was greater still than on the field of battle. We, making this internal loan, will show Europe that we are capable of making sacrifices as great as our past errors, which we have strength to redeem, and that it is dealing with a capable, worthy, and virile nation.

The task, difficult as it may seem, is not so in reality, for we have already received subscriptions to the sum of $20,000,000 initiated by the banks, whose conduct is worthy of the greatest praise.

The support of the people is all that is now needed to realize this work, pregnant with the most fruitful results for the benefit of the nation, and this is what this committee, in the name of our common salvation, now asks.

FRANCISCO URIBURU,
President,
ERNESTO TORNQUIST,
H. E. ANDERSON,
ALFREDO DEMARCHI,
MANUEL S. AGUIRRE,
A. E. BOWEN,
GUILLERMO PAATS,
JUAN MAUPAS,
JUAN CAÑAS,
M. CORREA MORALES,
CASIMIRO DEBRUYN,
ALBERTO L. GACHE,
Secretary.

DECREE OF THE PATRIOTIC LOAN.

[Inclosure 2 in Consul Baker's report.]

(1) In compliance with the decree of the National Government, dated 8th instant, an internal national loan of $100,000,000 is opened to the public in bonds of 6 per cent. and 2 per cent. amortization, annual accumulative, at the following places: Caja de Conversion, Camara Sindical, private banks. The Camara Sindical and the banks will give provisional receipts, which will be afterwards exchanged for certificates of the Caja de Conversion.

(2) The 10th, 11th, and 12th instant are hereby designated for the purpose, the lists to be closed on the latter day at 6 p. m.

(3) During these 3 days subscribers will receive the bonds at 75 per cent., but afterwards the Caja de Conversion will fix the rate, which must not be lower than 80 per cent.

(4) The conditions of payment are: 25 per cent. cash on subscribing, 25 per cent. on or before April 2, 25 per cent. on or before May 2, thus making 75 per cent. for every bond of $100 delivered.

(5) Payments can be anticipated, getting the usual discount, computed at 8 per cent. per annum.

(6) Provisional nominal certificates for the value subscribed will be issued, and will be transferable by simple indorsement, the holder of the certificates being always responsible for its obligations and liabilities.

(7) If any of the quotas be not paid on maturity, all those previously paid are *ipso facto* considered lost.

(8) In case the amount be oversubscribed, allotments will be made to all subscribers in equal proportions.

(9) By article 10 of decree, in case the Government should consider the amount subscribed insufficient for the requirements, the executive will declare the loan without effect, and all the sums subscribed will be returned by the Caja de Conversion.

MANUEL A. AGUIRRE,
President,
ALBERTO AUBONE,
Secretary.

THE SITUATION.

[Inclosure 3 in Consul Baker's report.—From the Standard of March 14, 1891.]

After the painful suspense of so many days, when the market swayed from Scylla to Charybdis, between the wreckage by "curso forzoso" or the wholesale ruin of fresh paper issues, between financial disruption and political dissolution, it is satisfactory to record a radical change for the better in all quarters. Affairs in general showed yesterday unerring signs of improvement, and the city, which last week was in the meshes of a panicky thralldom, revealed in a funeral calm, deserted streets, and daily and nightly alarm, has at last regained its old, busy, and familiar appearance. The market looked rejuvenated, now that the last bugbear (disorderly elections) has vanished. Strange to say, very many people apprehended serious disturbances at Sunday's elections. They had survived the financial dangers of the week by appealing to a patriotic loan, but they failed to see to what powers they could appeal to avert the dreaded political ebullition over the election of two senators. Happily for all, the elections passed off quietly, and the week has opened under most favorable auspices, with a firmer tone in the stock market, a falling gold premium, and a more general feeling of confidence in the future. *Esto perpetua.*

After the dangers from which the market emerged unscathed last week the course we are now pursuing appears relatively smooth and encouraging. We have escaped the rocks, but the financial ship is still in the midst of a terrible gale, and the haven is as distant as ever; for London "Moratoria" and patriotic loans may prevent us from sinking immediately, but will not put us on the right course. These reflections are suggested by the buoyant and hopeful feeling that seized the market yesterday in a fit of revulsion after the trials of last week. In the hearty congratulations tendered to the gentlemen who formed the committee of the loan, in the mutual admiration at the glowing success of that patriotic effort, people are apt to forget that the crisis is as stern a reality as ever, though the Provincial Bank has been saved from a summary execution at the hands of its depositors. Meantime the thanks of the country are due to the men who came forward in the emergency, and who, by means of a loan and admirable perseverance to carry out same, have saved all from the ruinous results of fresh paper issues and other financial absurdities. Their names are known to all; they deserve the gratitude of the public.

The loan committee have scraped together $40,000,000. This respectable amount has a great moral influence, and the effects of same could be seen yesterday in the hall of the Provincial Bank, where the run for deposits had diminished to insignificant proportions. At noon we counted 70 people in the hall; at 2 p. m. there might have been 100, no unusual number in the first day of the week. The halls of the Italian and English banks in the

Calle Fiedad and Reconquista were more crowded than the Provincial Bank, and it appears that much paper money that had been stowed away in old stockings, mattresses, etc., in the weeks of growing distrust is now finding its way back to the vaults of the banks. There could be no better proof of a sudden revival of confidence than the extraordinary number of new accounts daily opened in the private banks.

In chronicling the different phases of the situation, it is necessary to remark that politics are playing a very important part in the improvement that became so remarkable yesterday. At an early hour it was known that ex-President Mitre had arrived the night previous in the Spanish steamer *Alfonse XIII* at Montevideo. It can not be disguised that very great importance is attached to his arrival, as it is expected that he will unravel the present melancholy situation, consolidate politics, and redress finances. There are many who are convinced that all the monetary woes of the country spring from political causes. The believers in this financial doctrine are the majority, and, as they are satisfied that the returning ex-President will assume the reins of power ere long, they see in that very fact the much-desired panacea to remove all the irregularities that have caused and are still causing the terrible depreciation in the currency. Furthermore, it is known that the two great political parties which recognize as chiefs the two ex-presidents Mitre and Roca will make a great patriotic effort to avoid any electoral disturbances and arrive at some kind of compromise satisfactory to them as partisans and to the country at large. We can offer no opinion on such matters, but merely chronicle facts and reports that are supposed to be very intimately connected with the improvement in the situation. We may state that when General Mitre left on June 1 last year gold stood at 130 per cent. premium; it stands to-day at 234 per cent.

You could feel the pulse of the market yesterday throbbing with fresh vitality as the buoyancy of feeling put gold down ten points and infused new blood into stocks. When gold fell to 334, say 234 per cent. premium, the whole market looked radiant with satisfaction, and a smile flitted over the countenances of unfortunate stockholders as their shares in epileptic fits sought to rise above the low prices of last week. Importers looked forward to a revival of business, and dealers seemed more inclined to buy. The very exporters, who are the only people who are apparently benefited by the depreciation of the currency, greeted the improvement as a signal for fresh activity. The situation, in fact yesterday was a great revival, a powerful struggle of the market to shake off the nightmare of last week. But how long will this last? If we pin our hopes to nothing more effectual than a patriotic loan, the revival can not last long; it must fizzle, like generous champagne.

THE SITUATION, PRESENT AND PROSPECTIVE

[Inclosure 4 in Consul Baker's report.—From Buenos Ayres Herald of March 14, 1891.]

The popular loan has reached a sum of some $35,000,000 according to the subscription list, so that we might count on not more than $40,000,000, unless some syndicate in Europe should undertake a considerable sum. The minimum sum necessary to save and equip the Provincial and National banks was fixed at $100,000,000, so that the possible $40,000,000 will be just two-fifths of the smallest sum necessary for the emergency, and yet the Government accepts the popular loan as far enough advanced to warrant reliance on that measure to meet the emergency. The large subscriptions are very generally in, and of those that will now come many will be necessary to make $5,000,000 yet to be found before the above estimate of $40,000,000 is secured.

It may be just as well to forego the pleasure of a little patriotic rhetoric, and try and get at the underlying facts and conditions of the situation, and direct our thoughts in the direction of what will now be done. One point is settled. The internal loan has now reached a respectable sum, which the Government accepts and will use, as far as it goes, but what will be done when $40,000,000, more or less, shall have been exhausted? That it will soon be used up by withdrawals of deposits in our tottering banks, there can be no reasonable doubt. The public who have deposits in these banks do not reason nor think, but follow instinct, fear, and prejudice. They gain nothing in withdrawing deposits, for these same deposits consist of the notes of these banks and of those which are not worth so much, and, when they can not pay deposits, the latter will not be worth the drawing; but, we repeat, the public do not reason, but rush, like a lot of sheep following a blind instinct, into a ditch or into green pastures with the same alacrity. This loan will be made up of money now in other banks, and it will be drawn out and find its way back to the same place, as surely as would water dipped from its deposit and poured on surrounding ground—and then what? Very clearly a new emission. The President is reported as saying that this shall not be, but we have learned that presidential promises are fallible; indeed, a denial of the most emphatic character has preceded every act of inflation, beginning with President Roca, who declared that he would sooner cut off his right hand than sign a decree suspending specie payments, and within a week signed it with his right hand, and still he has two hands; and from then till now similar denials have been the sign foretelling the coming event, and so will it be in this case. The loan will soon be exhausted, and then in some form there will be a new emission; and the wise man will govern himself accordingly. The current of events is stronger than our own strong President. The only question, then, worth discussing is the nature of the coming emission. Upon this point the press and public should open fire to avoid the disaster of the proposed metallic note issue.

MEXICAN ORANGES FOR THE UNITED STATES.

REPORT BY CONSUL SMITH, OF NOGALES.

The following table shows the quantities and value of oranges exported to the United States through the Nogales consulate from 1884 to 1891:

Period during which exported.	No. of boxes exported.	Value (Mexican).
December 20, 1884, to June 8, 1885	5,740	$10,993
December 18, 1885, to May 6, 1886	7,145	10,922
November 6, 1886, to March 30, 1887	7,955	14,654
November 5, 1887, to April 14, 1888	13,823	13,026
November 20, 1888, to April 6, 1889	9,857	15,241
November 4, 1889, to March 17, 1890	13,899	26,424
November 2, 1890, to February 19, 1891	18,346	34,607
Total	76,765	125,867

Oranges in bulk were reduced to boxes with the average number of 145 to the box. The 18,346 boxes shipped in 1890-'91 were distributed as follows: Los Angeles, 630; Kansas City, 5,097; Chicago, 3,303; Lincoln, Nebr., 330; Nogales, 336; San Francisco, 501; Omaha, 990; St. Joseph, Mo., 2,629; Sioux City, 990; Denver, 2,265; Albuquerque, 945; Minneapolis, 330.

DELOS H. SMITH,
Consul.

United States Consulate,
Nogales, February 19, 1891.

THE BANK OF FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

INTRODUCTORY REMARKS.

When, in the month of November, 1890, the great commercial center of the world was trembling upon the verge of a financial crisis; when one of the oldest and most reliable of banking houses was forced to yield to an excessive and unlooked-for pressure suddenly brought to bear upon them and to declare their suspension; when every bank, fearful of a crash, was rapidly calling in its loans; when the entire atmosphere of finance was filled with doubt, misgiving, and uncertainty, and the rate of interest and discount mounted with an almost unprecedented rapidity, the Bank of France, calmly surveying the situation and availing itself, at the same moment, of a favorable opportunity for a mighty *coup d'état* and of making an advance upon exceptionally advantageous terms, unlocked its coffers, withdrew a small portion of its reserve fund, loaned the Bank of England the sum of $15,000,000 in gold, and so averted a panic.

There is something more than of passing significance in this event, this action on the part of the Bank of France. It must not alone be regarded as a mere offer of prompt and valuable assistance on the part of the nation to a money market in an hour of financial peril. There is something in it of more vital import than that; for there is not to-day, nor was there then, on the Continent of Europe a country that could, under similar conditions, have rendered like service both to itself as well as to another.

The occurrence marks the affluence of a prosperous and conservative people, the potency of a gigantic financial institution. It indicates the soundness, the resources, of a perfect banking system.

ANNUAL STATEMENT.

The annual statement of the Bank of France for the year 1890 was laid before the directors and shareholders at their last general meeting, and it further demonstrates the stability and firmness of this institution.

The general operations of the bank for the year 1890 amounted to $2,594,876,209, as against $2,471,048,499 for 1889, showing an increase of $123,827,710. This augmentation gives rise to especial remark when it is remembered that the preceding year was that of the great Exposition Universelle. The discounting of notes alone represents in itself more than two-thirds of this increase, amounting in 1889 to $1,771,808,009 and in 1890 to $1,854,689,084; increase, $83,881,075.

The State securities of the bank on the 29th day of January, 1891, proved the amount in hand as such to be equal in value to $235,757,953. The metallic reserve on December 31, 1890, was $455,673,000, of which $216,160,000 was in gold and $239,513,000 in silver.

Operations in advances upon securities and upon accounts current resulted in a decided increase. In 1889 they amounted to $137,525,797 and in 1890 to $156,626,119, an increase of over $19,000,000.

The general transactions in specie, bank notes, and transfers of the central bank show a slight decrease. In 1889 they amounted to $11,716,485,-933; in 1890 the amount was $11,694,683,881; diminution, $21,802,052.

The total value of securities deposited during 1890, both at Paris and in the provincial branch offices, amounted to $106,717,400, a diminution of $8,505,124 from the year preceding.

The rate of discount, which on February 7, 1889, was fixed at 3 per cent., has remained, notwithstanding the fluctuations in other countries, unchanged from that period up to the present moment. In Great Britain during the past year the rate of discount has stood as high as 6 per cent.; in Russia and Germany, 5½ per cent.

And here it may be proper to observe that the Bank of France is preeminently a discounting institution, assuming—and justly, too—great credit for maintaining, directly to the benefit of the inhabitants of France, a moderate and uniform rate.

In order to appreciate the results which were embodied in, and produced by, the constitution of the Bank of France, and especially as regards discount and exchange, it will suffice to compare the respective rates in France with those of the three great banks of issue in Europe during the last 10 years. By doing this, it is clear that in France alone the rate of discount has remained, scarcely without variation, at 3 per cent. from 1884 up to the present time; or, to be more exact, the average rate of discount for the past 10 years has stood at 3.19 per cent., while in neither England nor Germany has it remained stationary for a single period of 12 months. In the German Empire the average discount rate since 1880 has been 3.93 per cent.; in England, 3.5 per cent.

With these figures before them, the French can not be lacking in appreciation of the advantages offered by their banking system, for we may compute that English merchants and manufacturers pay in excess of the French for the discounting of their notes 0.31 per cent.; the Germans, 0.74 per cent.; the Austrians, 0.85 per cent.; the Italians, 1.10 per cent. And, further, if we look to the fact that the discount rate of the Bank of France regulates the rate of discount of other banking houses throughout the Republic, we can estimate that the average saving that French merchants have realized and do realize thereby amounts to over $3,000,000 annually.

The chief element that preserves and regulates the uniformity of the discount rate in an institution like that of the Bank of France is its reserve of bullion. For, as this reserve at the same time receives unto itself, as well as disseminates the money in circulation throughout the country, it is evident that, if it diminish, the bank is at once obliged to protect itself against demands by raising its rates. This condition is frequently observed in England, where the proportion of the bank reserve is insufficient to meet the extension or suddenness of commercial exigencies. Thus in the last-named country the rate of discount is subject to frequent variation and is affected by the slightest fluctuations of the commercial or financial market.

It will be of interest to note, upon the Continent of Europe, and especially in England, France, and Germany, the close relationship preserved between the rates of discount and metallic reserve. Taking as examples the two last-named countries and comparing the kinship of these material and immaterial substances for the years 1888, 1889, and 1890, we find that in 1888 the Bank of France had a metallic reserve of $444,093,000; in 1889, $474,973,000; and in 1890, $455,673,000. The corresponding rate of discount was respectively 3.07, 3.13, and 3 per cent.

In 1888 the reserve of the Bank of Germany amounted to $217,704,000; in 1889, to $209,984,000; and in 1890, to $188,175,000. The average rate of discount during the same period was as follows: In 1888, 3.32 per cent.; in 1889, 3.67 per cent.; and in 1890, 4.53 per cent. On the 31st day of December, 1890, it stood at 5 per cent.

To return again to the text of the bank's statement, from which I have for a moment departed to more minutely direct our attention to the evenness of the discount rates and the advantages derived thereby:

In January, 1891, there were 20,975,873 bank notes in circulation, representing a value of $612,410,602.

The liquidation of outstanding accounts up to December 24, 1890, amounted to $267,735.

The deposit of securities in Paris reached the sum of $716,138,000, an increase of $65,620,000 over 1889. At the branch offices at Bordeaux, Lyons, and Marseilles, where deposits of securities may likewise be made, the same amounted to $108,580,835, an increase of $5,018,000 over the year 1889.

Passing from the headquarters of the Bank of France at Paris to the sub-offices in the provincial cities, we find that, so far as general business is concerned, the city of Lyons takes first rank, superseding Bordeaux, which in 1889 was the most important branch. The total amount of banking business done at Lyons for the year 1890 is represented by the sum of $129,412,116, an increase of $16,212,000 over and above 1889.

The books of the bank at Bordeaux show transactions amounting to $117,291,039, being an increase of $3,377,500 over 1889.

Marseilles is next in point of order, their accounts for the year showing a business of $112,709,240, an increase over 1889 of $17,177,000.

Lille occupies the fourth place, the total amount of business transacted being represented by $75,375,590, an augmentation over the preceding year of 1889 of $3,667,000.

Last in order for the branches enumerated under the first class comes Havre, accounting for transactions to the sum of $70,218,630; increase, $11,194,000.

Regarding as a separate issue the discounting of notes by these several branches, it is found that the bank at Marseilles heads the list, the paper discounted thereat during the 12 months of 1890 representing a value of $93,040,397. Lyons and Bordeaux follow, the former having discounted notes to the value of $88,045,461, the latter $87,993,814.

As to net profit derived from its general transactions, the Bordeaux branch preserves, as it has for some time past, first rank, the net receipts for 1890 being $242,480; respectively follow Marseilles, profits $187,776; Lyons, $114,762; Havre, $100,136; and Roubaix-Tourcoing, $87,723.

Bordeaux again ranks first as having received on deposit securities of the highest value. During 1890 16,414 certificates of stock, bonds, etc., were placed for safe-keeping within its vaults, representing a value of $42,392,797. Marseilles follows with a deposit of 19,345 securities, amounting in value to $36,625,513. Third in order is Lyons, where the number of securities deposited was 15,671; value, $29,512,524.

Out of 258 branches of the Bank of France, the books of only 16 show a deficit for the year 1890.

The advances made by the bank to the State amounted in 1890 to $27,020,000.

The dividend paid to stockholders, the bank's stock being divided into 182,500 shares, the par value of each being 1,000 francs ($193), was $30.30 per share.

This, then, is the accounting presented by the Bank of France for the year 1890. This is the balance sheet of an institution which has locked up within its vaults more money—actual money—than the five greatest European banks of issue combined, namely, those of England, Germany, Belgium, Austria-Hungary, and Italy.

The Bank of France derives its charter from the State, which, in consideration of a specific agreement, namely, the loan of certain moneys at a regular rate of interest, grants to it the privileges already enjoyed. Just how much closer the bank is allied to the State it would be not only superfluous, but wearisome, to explain, for, since its establishment by Napoleon Bonaparte in 1806, its charter has been repeatedly renewed, and its franchise again and again revised and modified. The privileges expire in 1897. Proposals for their renewal, however, have already been placed in the hands of the minister of finance, and certain amendments and alterations offered for both his consideration and the consideration of the National Assembly. The minister has reported favorably on the proposals made on the part of the directors of the bank; nor could he well have done otherwise, as they pay, or will pay, dearly enough for its existence.

For a renewal of its charter for a term of 23 years dating from 1897 the the bank engages to disburse in favor of the State, from the moment of the renewal being granted until the year 1897, an annuity of $328,100, and from thence until its expiration the sum of $482,500 per annum. In addition to this, it agrees to pay $173,700 alone for the privilege of issuing bank notes.

It further proposes to annul the interest paid by the State upon two important loans made to it, one of $11,580,000 in 1857 at 3 per cent. interest, the other of $17,177,000 in 1878 at 1 per cent, nor will these loans be called in before the year 1920.

A report recently submitted to the French Chambers, in commenting upon the manner in which the Bank of France has used its privileges, says:

> An indication of the constant desire of this institution to serve the public, even at the detriment of its own interests, is to be found in the fact that the net profits of the bank have not in all cases followed the progressive figures of its operations. These operations, since the last law prolonging the privileges of the bank, have nearly doubled, and yet the dividends declared differ but little from those distributed in 1857, showing conclusively that the institution, in extending the sphere of its transactions, has desired less to increase its earnings than to benefit the nation.

Nor are these statements exaggerated. The innumerable services that the Bank of France has, from its commencement, though more especially in recent years, rendered the nation can not be overestimated. When, in March, 1871, 6 months after the surrender of Napoleon at Sedan, the defeated Empire, or rather the newly proclaimed Republic, agreed to pay to Germany an indemnity of $965,000,000, few believed that the country could ever discharge such a stupendous obligation. Within 2½ years from that period the enormous sum had, by the aid of the Bank of France, never failing in its efforts to aid the State, been completely liquidated.

For 80 years and more have the wheels of this mighty engine of finance revolved, unaffected by the misfortunes, vicissitudes, and disasters through which France has passed, receiving and disseminating, in conjunction with the treasury, now the Empire's, now the Republic's fund, year by year gaining in strength and vigor, until to-day it stands, by virtue of its admirable management, incontestibly and preëminently the foremost bank of the world.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, April 28, 1891.

THE POOR LAWS OF DENMARK.

REPORT BY CONSUL-GENERAL CARR, OF COPENHAGEN.

Throughout this Kingdom whoever can not maintain himself is given the necessaries of life by the parish authorities, and none are permitted to go naked or starve or be without shelter.

If a man accepts, either for himself or his family, support as a pauper, he loses his political rights or privileges.

If persons, after having been paupers, become able to do so, they are obliged to pay back the money paid by the municipal authorities for their support while paupers.

Paupers are given aid and support in proportion to their needs, either in the houses where they are found, in public poorhouses, or are put out to be cared for.

The above is substantially the poor law as hitherto in force in Denmark.

The late Rigsdag provided that giving out the care and maintenance of paupers to the lowest bidder, as has been heretofore the practice, is hereafter prohibited.

Husband and wife must not be separated if they conduct themselves properly.

Aged and feeble persons must not be placed where they will be disturbed or annoyed, and children must not be placed under immoral influences.

A person who has received aid as above from his parish is to be regarded as a debtor to the parish, and also by receiving such aid loses his political rights; but, upon entirely maintaining himself and his family after having received aid as a public pauper, his political privileges are restored and he is discharged from indebtedness.

Pensions are hereafter to be provided for the aged native and naturalized citizens, men and women who have completed their sixtieth year and are of good character, not having been convicted of crime, and who have not, for the benefit of their children or by improvident living, impoverished themselves and who have lived for the 10 years immediately preceding without having received relief. All such persons are to be supported and provided for during their declining years, not as paupers, but as pensioners, losing none of their political rights.

To carry out this provision the General Government of the Kingdom appropriates 2,000,000 francs to contribute to the parish funds in proportion to the sums expended in each parish, provided that no parish shall receive more than one-half of the sum expended for this purpose.

CLARK E. CARR,
Consul-General.

UNITED STATES LEGATION,
Copenhagen, April 6, 1891.

A FREE PORT AT COPENHAGEN.

REPORT BY CONSUL RYDER.

I have the honor to report that the bill establishing a free port of entry at Copenhagen, referred to in my report of December 1, 1887, has finally passed both houses of the Danish Rigsdag, and is now a law.

It is calculated that the expenses for this project will amount to 10,038,000 kroners, or about $2,690,184 in our money.

The most prominent features of the free port are that the whole area within its prescribed limits and all the trading and manufacturing establishments erected thereon will be considered as "foreign territory," not subject to custom duties or regulations until goods stored or manufactured within the free port (domain) are actually sold and transferred to parties in the country, when such goods will be treated as other imported wares.

Considering the geographical position of Copenhagen in relation to all the Baltic provinces, whose many important cities and harbors generally are icebound for several months of the year, it is evident that the establishment of a free port at Copenhagen will open a wide scope for mercantile and manufacturing enterprise, as well for foreigners as for citizens of this country.

The free port will be divided into a mercantile and industrial department. The management of both is to be left in the hands of a joint stock company, to be organized under the auspices of the Landmandsbank of this city, one of the most prominent banking institutions of this country, and under certain rules and regulations. The said stock company is to furnish 4,000,000 kroners ($1,072,000) for the erection in the mercantile department of the free port of the requisite buildings and institutions and for the laying down of railroad tracks, etc., in the industrial port, while, on the other hand, it is to divide the total income from the running of the establishment with the Copenhagen harbor department in a certain specified proportion. Stipulations are made for a considerable extension of the free port domain, if the development of the institution should require it.

The Danish Government reserves to itself authority to prohibit the manufacture within the free-port region of such articles as in the manufactured state are duty free, while, according to the present tariff, the raw materials of which they are manufactured are liable to customs duties. This has especial reference to the printing of books, the manufacture of oleomargarine and of artificial manure, etc.

In the arrangements with the said joint stock company it is further provided that the managing members must be natives and Danish citizens; that the secretary of the interior may appoint part of the managers; that the domicile of the company is to be at Copenhagen; that the company shall be subject to the rules and regulations of the State with regard to the custom-house control; and that the company shall not be obliged immediately to expend more than half of the 4,000,000 kroners.

The entire free port is to be ready for traffic not later than 2 years after the cession to the company of the requisite area.

The above are the principal features of this very important project.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, March 31, 1891.

IRISH VS. AMERICAN BACON AND HAMS.

REPORT BY CONSUL REID, OF DUBLIN.

Referring to my report on curing bacon and hams in Ireland, transmitted with my dispatch of September 18, 1890, I beg leave to say that said report was copied from the CONSULAR REPORTS and republished in a London trade paper in its issue dated April 11, 1891. This republication has led to more correspondence between a Limerick firm and myself. This firm, for itself and two other houses,* denied the truth of the statement contained in my report to the effect that "large quantities of American hams are purchased by one of the chief pork-packing concerns of Limerick, which smokes them, impresses its own brand upon them, and sells them as its own goods." The said concern also called upon me for my authority for this statement. I replied, giving my authority, without mentioning names, as a responsible curer and a responsible retailer in this city. At the same time I stated that, if the firms mentioned considered that injustice had been done them and wished to join in a denial of my statement, I would offer such denial for publication in the next CONSULAR REPORTS. To this communication I received the inclosed reply, which is marked inclosure 1.

In the light of developments I have inquired further as to the practice of Limerick firms. Salesmen generally and some dealers admit to me verbally that American hams and bacon are largely sold as Irish meats in one way and another, but, in view of possible trouble, they are unwilling to have their names or knowledge used to substantiate the statement that the practice of particular firms is as presented in my report.

In this connection, I may say that I am informed that no installment of hams will be received in France from Irish curers unless the invoice is accompanied by an affidavit setting forth that they are Irish meats, which fact, I think, affords strong presumptive evidence at least that the practice of some curers is or has been as I have stated. I transmit herewith a copy of such an affidavit (inclosure 2), which accompanies all shipments of the firm named. This affidavit is published as an advertisement in the Dublin papers. Referring to this matter, I find an item in the Telegraph of May 4, which is made a part of inclosure 2, the closing sentence of which is suggestive.

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*The paragraph in Consul Reid's report to which objection is made is as follows:

"The retail price of American hams in this and other Irish markets is from 6*d.* to 7*d.* (12 to 14 cents) per pound, or about one-third less than the local product commands. This is the case where they are sold as American goods; but, as the result of careful investigation, I find that one of the chief pork-packing concerns at Limerick buys great quantities of American hams in the cured state, smokes them, impresses its own brand upon them, and places them upon the market at a price only a trifle below what it asks and receives for its own goods. Manifestly it is for the interest of the American producer, if he would extend his European trade, besides endeavoring to make his curing process more perfect, not to dispose of his goods to his immediate competitor, who robs him of a profit to which he is entitled, but to offer his goods to the legitimate dealer under his own brand and to wage his war upon these lines to the end. The merit of his product will command just recognition in the end, and the American hog, so long unjustly discriminated against, will push his way into the front rank of his various competitors upon this side of the ocean." (CONSULAR REPORTS No. 122, p. 442.)

It will be noticed that no names were given in Consul Reid's former report; consequently, all names are omitted in the present report.

From this statement of facts the Department will see that my original statement was not a careless one, but was made deliberately after due investigation. I believed it to be correct and that it could be substantiated even as against particular firms. Moreover, I still believe it to be correct in substance, although it might be difficult to secure absolute proof for reasons above stated. At all events, it would seem that where there is so much smoke there is likely to be some fire.

I submit to the Department the question as to whether it would be advisable to publish in the CONSULAR REPORTS the statement of the Limerick firms herein inclosed and above referred to. I simply offer the denial for publication, in accordance with my statement to one of the firms.

I may say in conclusion that it was not my intention to do injustice to anyone, but it was my very decided purpose to ventilate what I believed to be a fact in the interest of an important American industry, and in the preparation of my report I am conscious of having exercised more than ordinary care.*

ALEX. J. REID,
Consul.

UNITED STATES CONSULATE,
Dublin, May 12, 1891.

DENIALS OF LIMERICK FIRMS.

[Inclosure 1 in Consul Reid's report.]

LIMERICK, *April 29, 1891.*

ALEXANDER J. REID, Esq.,
United States Consul.

SIR: We are in receipt of your favor of the 18th instant addressed to Messrs. ———, and we now jointly beg to confirm denial contained in Messrs. ———'s letter to you under date

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* *Chicago-Limerick bacon.*—In the early part of 1881, under the authority of the Department of State, I visited the West for the purpose of investigating the pork question. The result of my investigation was embodied in a report published under the title of "American pork, result of an investigation made under authority of the Department of State." At that time many of the governments of Europe had issued prohibitory decrees against our pork products.

While in Chicago, I fell in with a leading packer and curer, an Irish gentleman I believe—at least he cured for Irish firms. In discussing the European phase of the question, this gentleman showed me a handbill which he had received a few days previously from a leading firm in the city of Limerick. The handbill was addressed to the English consumers of Limerick bacon, and warned them of the great danger to public health attendant upon the consumption of American bacon; warning them still further against American bacon palmed off as the pure Limerick article. The handbill wound up by assuring them that no reliance could be placed upon Limerick bacon which did not have the brand of said firm thereon.

"Now," said my informant, "nearly every pound of this firm's 'Limerick bacon' sold to the English consumers is manufactured right here in Chicago."

"Prove it!" said he, in answer to my question; "I should think I could, seeing that I myself manufacture and ship it direct duly branded as '——— Limerick bacon;' and, let me tell you, no better bacon was ever made in Limerick or sold in England."—MICHAEL SCANLAN, *Chief of Bureau of Statistics, Department of State.*

April 17, and also contained in our letter to the editor of the ———, dated April 18, copy of which we inclose.

We shall be glad if you give our denial a place in your next report, as you offer to do, so that it may have an equal circulation with the statement in your last of which we complain.

We are, etc.,

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CURING HAMS AND BACON IN IRELAND.

LIMERICK, *April* 18.

SIR: In your article under above heading on the 11th instant, being a report by United States Consul Reid, of Dublin, we have seen a statement with reference to the Limerick bacon and ham curing industry, from which the following is an extract: "I find that one of the chief pork-packing concerns in Limerick buys great quantities of American hams in the cured state, smokes them, impresses its own brand upon them, and places them upon the market at a price only a trifle below what it asks and receives for its own goods."

This statement we wish to contradict most distinctly, so far as our firms are concerned. We neither buy nor sell any goods of American origin, nor do we believe any merchant in Limerick brands hams as stated.

We are, etc.,

———
———
———

IRISH HAMS AND BACON.

[Inclosure 2 in Consul Reid's report.—Clippings from Dublin Telegraph of May 4, 1891.]

County of City of Dublin, to wit:

I, ———, in the city of Dublin, do solemnly and sincerely swear as follows: That I am manager of the firm of ———, bacon and ham curers, of ———, and that I personally supervise and attend to said business. That the said firm of ——— have never bought, sold, or otherwise dealt in pigs, except Irish bred and grown pigs, and have never bought, sold, or otherwise dealt in bacon or hams other than those manufactured from Irish bred and grown pigs, and manufactured upon the premises of the said firm of ———; and have never bought, sold, or otherwise dealt in any kinds of meats of American or any other foreign origin; and I swear most positively that all hams and bacon exported in the name of the said firm of ——— to France, England, Scotland, or elsewhere were manufactured of Irish bred and grown pigs, and manufactured by the said firm of ——— at their establishment at ——— street aforesaid; and the said firm of ——— never exported to France, England, Scotland, or elsewhere any kind of meat of American or any other foreign origin.

Sworn to before me this 16th day of January, 1891, at Dame street, in the city of Dublin.

ISAAC BECKETT, *J. P.*

Signed, ———.

The above is copy of an oath made weekly to satisfy continental customs authorities as to the origin and manufacture of goods exported by ———, the most extensive curers and exporters in Dublin. Six prize and gold medals, 1889 and 1890.

[Editorial comment.]

The firm is determined that their buyers shall have no occasion to doubt the genuineness of their Irish hams and bacon, and are now publishing a copy of the weekly affidavit which they make for export purposes. If all firms were prepared to give a similar guaranty, the trade would be in a sounder state.

MINES OF SAN NICOLAS, TAMAULIPAS.

REPORT BY CONSUL RICHARDSON, OF MATAMOROS.

I have the honor to transmit herewith a translation of an article which appeared in the Official Gazette, published in Victoria, Tamaulipas, February 14, concerning the mines in the San Nicolas district. This article and translation were furnished me by Hon. Thomas Carson, mayor of Brownsville, who personally vouches for the accuracy of the statements made therein.

I am in receipt of Department circulars calling for information upon the mining laws and mineral resources of this consular district, with which I shall comply as soon as I have all the data at hand. I have thought it best, however, to make this statement directly to the Department, since it seems to me necessary to the full history of this consular district.

Since the transmission of my report upon "Conditions affecting trade in Mexico," a great interest has been awakened in the subject of mining by reports of rich findings in the old San Nicolas mines, which will probably result in an overhauling of all the old mines and the discovery of many new ones in the mining regions of Tamaulipas.

The San Nicolas mines are situated in a chain of hills in the Sierra Madre range, near the town of San Nicolas, about 180 miles southwest of Matamoros, and lying between the two railroads projected from Matamoros to Linares and Victoria, respectively, known as the Matamoros, Linares, and Matchuala and the Matamoros, Victoria, and San Luis Potosi railways.

These roads, according to preliminary surveys, will run within about 40 miles of these mines, while they are about the same distance from the Monterey and Mexican Gulf Railway.

This town and these mines are not new. Says Governor Alijandro Prieto, in his valuable history of Tamaulipas, published in 1873:

> San Nicolas was erected into a town in 1767. The mines in that division were long worked by the Spaniards, but since they abandoned the country this mining district has fallen away from a population of 16,000 to 300 inhabitants. The ore is abundant in the old mines. * * * They were suspended in 1810, and have never been resumed on account of the unfortunate revolutionary condition of the country imperiling the administration of public justice.

At the time referred to by Governor Prieto, when these mines suspended work, there was, according to Humboldt, who visited Mexico in the years 1804-'5, over 3,000 mines in Mexico producing gold and silver. At the close of the struggle for independence fully one-half were abandoned, a large portion of which have never been reworked, though the Mexicans are good miners. There was an apparent revival in the mining industry in the years 1824-'26, at which time there was an epidemic of swindling mining companies organized in Great Britain for the purpose of "working" Englishmen as well as the mines of Mexico. These companies naturally fell to pieces, and the influence of their failure was such, together with the prolonged state of political upheavals and commercial paralysis, as to defer any further especial outlay of capital in the country until within the past two decades.

The range of hills in which the San Nicolas mines are found has long been known to be rich in argentiferous galena. There are one hundred or more known mines, all of which were producing ores in paying quantities up to 1810, when the Spaniards were forced to leave the country. The great hindrance to work of mining here, as in most mining districts, is the lack of water and fuel in the immediate vicinity. There is said to be an abundance of both within 25 or 30 miles of these mines over a good road.

These mines were formerly considered very rich. Most remarkable traditions concerning them are quoted, such as the cutting of silver bullets from the ore and the paving of the streets of San Nicolas on festal occasions with silver, and yet, according to the best data at hand, the best producing mine was the Dolores, which netted 330 ounces to the ton. It will be seen by the footnote to the inclosure transmitted herewith that the present assay of La Casoliña is said to indicate from 1,100 to 1,540 ounces to the ton. It is the belief of the engineer in charge that the mother vein has been found and that a reasonably rich output may be expected for some time to come. The Tamaulipas Company have been exploring in this region for several years. Their work has been largely experimental, and so not remunerative until within the past 4 months. They are now negotiating for improved machinery and propose to have several hundred men at work soon.

These recent developments at San Nicolas are the "signs of promise" for Tamaulipas. It has long been believed that this State was rich in minerals, and under the impetus of this encouraging report the hills are rapidly filling with prospectors. The motive for completing some of the many projected railroads through the State is enhanced, and with the completion of these roads there would be a marked revival in agriculture and trade. This is unquestionably the agricultural State of Mexico. As rich as it may be in minerals, its greatest wealth is in its soil, and the key to both industries is markets near at hand.

JOHN B. RICHARDSON,
Consul.

UNITED STATES CONSULATE,
Matamoros, March 24, 1891.

MINING PROGRESS IN TAMAULIPAS.

[Inclosure in Consul Richardson's report.—From Periodico Oficial del Estado de Tamaulipas.—Translation.]

Not without reason has the governor persisted in affirming that mining in the State will be one of the principal branches that will advance it. What has been done already demonstrates it. The mines of San Nicolas, that were so long abandoned, have met a complete change, owing to the impulse of the Tamaulipas Company and to the knowledge of the engineer, Mr. Fernando Sustersic, whose works have been perfectly laid out and ably executed.

CONDITION OF THE MINES.

San Nicolas.—The adit runs horizontally 110 metres, and will require to finish the work 207 metres of excavating and walling up, with the exception of the "Labor del Agua," which has been worked a distance of 100 metres over metal of the value of $106 per ton of 2,000 pounds, having a reserve of 2,000 tons. This adit will be finished by July of the present year. Before its termination three very rich veins will be met, according to tradition. It is the intention of the company to continue the adit 80 metres more, until it crosses or cuts the vein of Las Hornugas. It is said that the products of this vein were given for the foundation of the famous Hacienda de la Gavia.

La Caroleña.—An adit 50 metres long has been constructed, which was made to locate the various veins contained in its interior, and which have been found. Through means of this adit the mother vein, that had been lost for time immemorial, was found. The mother vein was followed through passages from east to west for a distance of 25 metres, where was found, on the east side, a quantity of very rich metal, the shaft of which has a depth of 42 metres, all over metal; the vein continues improving, not only in quantity, but in quality.

The assay of the metals of this new vein is, near the surface, from 40 to 50 ounces per ton, and at greater depth it is from 100 to 400 ounces per ton. At a depth of 18 metres below the level of the shaft or pit openings have been made over the vein, from east to west, that now have 10 metres in each direction, rich metal being found all the distance. Besides this vein, there are five smaller veins or branches with much metal, although the assay of these branches is poorer. Nevertheless, the price paid for it at the foundry or smelter of Monterey is $80 per ton.*

Dolores.—This mine has a shaft worked 7 metres and 50 centimetres, and produces $150 per ton.†

Aguilares.—This mine has a shaft worked 10 metres, and produces $100 per ton.

Colorada and La Mexicana.—These mines are not being worked in a formal manner. All of these mines belong to the Tamaulipas Company and are under the direction of the engineer, Mr. Sustersic. There are actually employed 100 workmen, and the company has purchased sufficient land for the construction of houses, with the object of bringing 200 or 300 families of miners from Guanajuato and Zacatecas. Soon there will be a branch of the Gulf Railroad that will go direct to the mines in question.

AMERICAN-CHILEAN TRADE.

REPORT BY CONSUL McCREERY, OF VALPARAISO.

Since my arrival in this country, in June last year, I have devoted a very considerable portion of my time to the study of the commercial relations existing between the United States and Chile. It is not always easy to obtain the desired information, importers very naturally not caring to furnish statistics or to divulge matters connected with their business. Therefore, a large portion of this report will be founded upon my own deductions; but, as they are the result of patient and careful inquiry, they may be accepted as perfectly reliable in all their parts.

I believe the United States has in Chile a valuable market for many of its productions, but before going any further I should like to correct one or two erroneous impressions respecting this market which appear to have taken hold of the minds of a good many persons in our country. It is a great mistake, for instance, to suppose that the manufactures of the United States are ignored, overlooked, or neglected in this country. There are in this city at least twenty respectable importing houses who are well acquainted with United States manufactures and fully alive to all the improvements that take place in them, and they are ever on the lookout to introduce such new articles as their practical experience suggests may be adapted to the requirements of this country. It is an error to suppose that the commercial traveler, in flying visits at long intervals of time, can accomplish more for American manufactures than long-established firms who are thoroughly acquainted with the country and its requirements. Therefore, if our manufacturers would place themselves in communication with these long-established firms or with their recognized agents in the United States, the possibilities in favor of an extension of their trade with this country would be vastly superior to what they are and to what they will be so long as they confine their representation to the professional drummer. A few words in explanation and illustration of my contention. I make no pretension whatever of condemning the employment of the commercial traveler altogether. By no means. But there are travelers and travelers. It is, in fact, a position that requires, among many other requisites, the very important one of great tact. Now, I contend that this important requisite is not displayed by the traveler who, for instance, endeavors, before visiting the wholesale and importing houses, to do business with retail dealers. Yet this, I am assured, is no uncommon occurrence, the result being, quite naturally, that the wholesale houses resent this interference with their retail customers by refusing to enter into business transactions with the offending traveler, and consequently he books a few insignificant orders, and the Chilean market is declared by his employers to be an unprofitable one, all through a want of tact, and is not tried again. I am also assured that in the majority of cases the business secured from retail dealers has been the reverse of satisfactory, disputes having arisen with respect to size, quality, and appearance of goods—these too often being sold from showy and exaggerated lithographic presentments—and the mode of payment. Therefore, it would appear that the wisest and safest plan for travelers to follow is to endeavor to introduce their goods through the recognized wholesale distributors of merchandise and to leave the small fry alone.

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* The present assay of the output of La Caroleña runs from 1,100 to 1,540 ounces of silver per ton of ore.

† This mine was formerly considered the richest in the group, producing at one time 330 ounces per ton.

There is another matter to which I desire to call the attention of our manufacturers, which is that they neglect to bring their specialties to the notice of this country by judicious advertising. If our manufacturers imagine—as they probably do—that by advertising in certain publications which are said to be specially designed for circulation in South America they have done all that is necessary to bring their manufactures to the notice of the inhabitants of this continent, they are grievously mistaken. I can speak for this country that the publications in question are rarely seen here, and, when seen, are rarely looked at, and I have no hesitation in affirming that judicious advertising in long-established Chilean papers, which are universally read, would produce greater results in a few months than years of advertising in the publications referred to.

In this connection, there is another matter to which it is advisable that I should call the attention of our manufacturers. Undoubtedly, there is in Chile a large field for products of the United States; but it is not an unlimited one, nor is it suitable for all the manufactures of our country. For instance, Chile, unlike Peru, does not produce sugar, rice, or cotton; consequently, there is no market here for machinery applicable to the raising and treating of those articles. I mention this because I notice that considerable confusion exists in the minds not only of our manufacturers, but also in those of many persons who profess to write for their information, respecting Chile and South American countries generally. As a general rule, our manufacturers may depend upon it that the safest and wisest plan they can adopt, when they feel a desire to try this market, is to place themselves in communication with a respectable firm doing business here. By so doing I feel assured that they will save time and money, and, possibly, be spared considerable annoyance and perhaps loss.

There is, I think, an excellent prospect for a line of steamers between New York and Callao, via the Straits of Magellan, calling at Rio de Janeiro, Montevideo, Buenos Ayres, Valparaiso, and other intermediate ports. At present the carrying trade between New York and Boston and this coast is done in sailing vessels via Cape Horn. The average voyage to this port is probably about 3 months, and this time, added to the time the vessel is occupied in loading in New York or Boston, a month for the transmission of the order and another month for its execution, makes at least 6 months, under the most favorable circumstances, before an order is received here. By the steamer route indicated (via the Straits of Magellan) this time could be reduced by at least 2 months, and, in many instances, by 3 months. I think a monthly line would be sufficient for the requirements of this coast and to commence with steamers of from 2,000 to 2,500 tons carrying capacity. With respect to return freight, Chile could give nitrate, guano, manganese, wool, etc. If such a line were established, I feel convinced that it would facilitate and increase the commercial relations of the United States and Chile.

With respect to our trade with this country, I find it stated in official statistics that there was an increase in imports from the United States in 1889 of 22.62 per cent. In the 5 years 1885–'89 the value of the imports and exports was as follows:

Year.	Imports.	Exports.
1885	$2,721,265	$1,626,773
1886	2,623,172	2,649,806
1887	3,242,314	2,611,384
1888	3,133,173	2,070,694
1889	3,842,078	3,781,411

The total value of the imports from the United States in 46 years (1844–'89) is given at $91,674,630. The value of the exports to the United States in the same period is given at $86,474,262.

In 1889 45 American sailing vessels of 39,708 tons entered Chilean ports from foreign ports, 2 only being in ballast. The departures for foreign ports were 30 vessels of 26,864 tons, 1 only being in ballast. One steamer of 88 tons entered and 2 of 288 tons left.

The coasting returns give 61 sailing vessels of 34,215 tons entered and 72 vessels of 46,473 tons cleared; no steamers were employed.

The principal imports from the United States in 1889 were as follows:

Articles.	Value.	Articles.	Value.
Oil:		Grease	$10,245
Lamp and machine—		Tools:	
Vegetable	$38,993	Agricultural	14,616
Mineral	595,900	Carpenters'	17,632
Sewing machine	2,220	Soap	4,898
Cod liver	464	Cottons:	
Florida water	7,635	Twilled	111,032
Vitriol	459	Plain	17,962
Mineral water	397	Trouserings	11,932
Turpentine	24,140	Bagging	107,682
Wire	7,600	Sheeting	41,240
Tar	3,410	Books:	
Bitters	4,324	Printed	14,420
Plows	39,522	Account	3,358
Harnesses	1,925	Canvas	4,615
Rice	1,109	Cabinet woods	26,551
Refined sugar	57,535	Pine and other lumber	998,831
Scales	5,400	Lard	32,470
Wooden buckets	3,406	Railway material	259,077
Copal varnish	3,787	Agricultural machinery	30,452
Trunks	2,430	Sewing machines	10,091
Blacking	1,819	Machinery	31,610
Pumps	3,037	Hardware	94,000
Pitch	2,124	Furniture	5,618
Wheelbarrows	3,599	Wicks	4,308
Coaches	7,805	Iron shovels	9,955
Ball cartridges	5,373	Sandpaper	2,324
Nails:		Wall paper	4,000
Wire	3,133	Perfumery	3,279
Cut	62,879	Revolvers	7,622
Stoves	15,139	Mining powder	11,767
Fireworks	[illegible]	Resin	33,576
Glassware	[illegible]	Platform scales	11,649
Dynamite	6,455	Sacks	10,854
Coopers' staves	[illegible]	Chairs	48,089
Shoe pegs	8,625	Tacks	3,427
Flannel	167,706		

The principal exports to the United States in 1889 were as follows:

Articles.	Value.	Articles.	Value.
Quillaia bark	$480.00	Walnuts	$8,039.64
Goat skins	2,946.65	Nitrate of soda	2,990,256.00
Beans	11,996.00	Hemp seed	1,512.55
Sheeps' wool	224,297.00	Iodine	482,800.00

The statistics for 1890 have not been published yet, but, as far as the United States is concerned, I believe imports and exports last year will compare favorably with 1889.

I have no doubt that Chile would take a large quantity of our products if we, in return, could take a large quantity of her productions. The United States can not, of course, take any of Chile's wheat or copper or silver; consequently, our imports from her must, of necessity, be confined to nitrate, iodine, guano, manganese, and a little wool. In my opinion, it is to the first of these that we must look for an impetus to our trade with Chile. If our farmers were acquainted with the extraordinary fertilizing properties of nitrate, and especially for beet culture, I feel sure that they would become large consumers of this substance. Now that the manufacture of sugar from beets appears to have passed the experimental stage, no time should be lost in bringing nitrate to the attention of the growers of this root. In 10 months (January to October) of last year the exportation of nitrate amounted to 681,241 metric tons, and by far the greater portion of this large quantity went to Germany to be applied as a fertilizer to beets.

As I have already stated there is a good market in Chile for a large number of American manufactures, and, though not unlimited, it is capable of considerable expansion.

In conclusion, I beg to remind manufacturers and others that patent rights can be obtained in this country, and that protection can also be obtained for trade-marks.

WM. B. McCREERY,
Consul.

UNITED STATES CONSULATE,
Valparaiso, March 2, 1891.

THE SANITARY SYSTEM OF BERLIN.

TRANSLATION BY CONSULAR CLERK GEORGE H. MURPHY.

"The healthfulness of a city," says a French authority on the subject, "depends upon two things: the water which it drinks and the rapidity with which its impurities are removed."

While, beyond doubt, these are the two principal causes of salubrity or its opposite, there are, however, other causes which contribute to these results.

Market houses must supply good articles of food. The freshness of such articles must be required. To obtain these conditions, police supervision has been found necessary.

The slaughter-house must be strictly watched, and private slaughter-houses removed from the city.

By careful official inspection of meat the inhabitants must be protected from the danger of being supplied with unhealthy beef, etc.

These communal duties were impossible of fulfillment until the laws of the State empowered the communities to permit slaughter only in public slaughter-houses and to insist upon scientific inspection of meat before allowing it to be placed upon the market for sale.

Since the passage of such laws by the Prussian legislature in the years 1868 and 1881, the opinion has grown among scientists and the general public that it is the duty of municipal authorities to exert themselves for the prevention of general dangers which can affect the health of individuals through the crowding together and commercial intercourse of human beings, and especially through the obtaining of food in this intercourse.

In addition to these Prussian laws, there has also been imperial legislation on the subject in the form of the so-called articles-of-food law, which has the double object of prohibiting the sale of injurious articles of food and of protecting the public against deceptions not injurious to health in the purchase of such articles.

Furthermore, during the period under report several police regulations bearing on this subject were issued. Among these were the order of July 6, 1887, in regard to the trade in fresh cow milk, the order of April 9, 1888, in regard to the manufacture of mineral water, and the order of January 20, 1883, in regard to the erection and use of beer-pump apparatus.

If, however, laws, regulations, and public instructions have done what they could to lessen the dangers arising from the use of unhealthy food, little has been accomplished towards removing those dangers which arise from the manner in which laboring classes exist in large cities. While much remains to be done towards improving the dwellings of the laboring portions of the population, the communal authorities have at least afforded to all classes of the population the opportunity to breathe in streets, squares, and before the gates the healthy air which rises from plant vegetation. Care, moreover, is taken that children of this class are not confined in unhealthy schoolrooms or bent on unsuitable seats; that they have open playgrounds and gymnastic apparatus to develop their strength and vitality. In public parks similar provision is also made for the children. In short, in addition to its distinctive purpose, nearly every branch of the municipal administration contributes to the advancement of public healthfulness.

PUBLIC BATH HOUSES.

As cleanliness is a prerequisite to healthfulness, it may be well first to consider the convenience offered for bathing in the public bath houses.

In the municipal report for the years 1877-'81, after comparing the bathing facilities of Berlin with those of other great cities of ancient and modern times, it was said:

"We do not need to imitate the luxury of the hot baths of Titus and Caracalla, but we can not expect our lamentably bad public facilities—at present we offer only river baths to the public—to suffice much longer."

The public has now within its reach, at very moderate prices, tub and shower baths in the so-called Volksbäder (people's baths), which are partially supported by the commune.

As long ago as 1873, in consequence of the increasing interest in sanitary matters and the rising value of land in Berlin, a Volksbäder society was established, and in the same year the first Volksbadeanstalt (people's bath house) was opened at 13 Höchste street. A new impulse was given to this movement by the erection, at the Hygienic Exposition in 1883, of a bath house by Dr. Lassar, of Berlin, which, in a comparatively small space and with moderate building and current expenses, guarantied absolutely clean and fresh baths. This was made possible by the use of shower baths alone. This form of bath was not new, as it had long been in use in connection with tub and basin baths; but the unquestionable service done by Dr. Lassar was that he exhibited before the eyes of the public, as a distinct and independent form of bath, the shower bath, whose high sanitary value, as compared with other baths, had often before been recognized by great medicinal authorities. The problem how to establish bath houses offering most abundant accommodations, and thereby enabled to pay expenses from their own receipts, thus seemed solved.

The Volksbäder Society, however, held firm to the opinion that no Volksbadeanstalt could entirely dispense with tub baths; still it placed on its programme Dr. Lassar's shower baths also.

After much preliminary negotiating, on December 24, 1886, the city council agreed to allow the society to build two bath houses on municipal park property, and, in addition to this, gave in cash 108,000 marks towards the building cost, with the understanding that these bath houses were to be the property of the society, built and conducted by it. The city, however, retained the proprietorship of the land and the right to purchase the bath houses at prices agreed upon, to oversee all business details, and to assist in fixing the tariff of prices. At a meeting of the city council this plan was vehemently attacked by some members, on the ground that such important establishments should be directly under the control of the city and run at its expense. It was argued on the other side that this was only an experiment, and that if the city took it into its own hands this would require the appointment of new officials; that the society had already in its employ experienced men; that leaving this matter to the voluntary efforts of the public encouraged a general interest in sanitary affairs; and that by this arrangement 80,000 marks were saved to the municipality, the amount which the society offered to contribute to the building expenses. Moreover, the society gave every guaranty that the business would be properly conducted, and even left the municipality the right to acquire the full rights to the property at any time. It was finally agreed to consider these two bath houses as the beginning of a system and to confine the agreement between the magistracy and the society to these two bath houses, leaving the extension of the system entirely in the hands of the magistracy. These two bath houses were completed in 1887 and put into operation in the spring of 1888.

For the use of those who can afford to pay more there are tub and shower baths of the first class, which are more luxuriously equipped. The price for a tub bath is fixed at 50 pfennigs (12 cents), while the shower bath costs only 25 pfennigs (6 cents). The greater part of the space is, however, given up to second-class baths, which, in spite of their cheapness—the prices are 25 pfennigs (6 cents) and 10 pfennigs (2½ cents), respectively, for tub and shower baths, inclusive of the use of soap and clean towels—are equipped with all the requisites to a healthful bath.

In the first business year, beginning March 12, 1888, the results were as follows:

Volksbade Oranienburger Vorstadt.—The total number of bathers was 84,105, of whom 62,296 were males and 21,809 females. Of the males, 43,324 took tub baths and 18,972 shower baths; of the females, 19,776 took tub baths and 2,033 shower baths.

Volksbad Alt- und Neu-Kölln.—The total number of bathers was 91,967, of whom 67,536 were males and 24,431 females. Of the males, 43,443 took tub baths, 23,909 shower baths, and 184 salt baths; of the females, 22,319 took tub baths, 1,932 shower baths, and 180 salt baths.

The fact that, in spite of their cheaper price, the shower baths were not more largely taken is, no doubt, due chiefly to their not being so well understood by the public. This seems more probable as the shower-bath establishment erected at the central slaughter-house for the use of butchers enjoys great popularity.

The business results were also satisfactory for the first year; the receipts not only covered expenses, but paid a small interest on the capital invested. The municipal authorities are therefore disposed to extend the system under its own management. It is next intended to build two such bath houses, one in the eastern part of the city and one in Moabit.

The extension of the municipal activity in this direction did not, in the period under report, prevent increased attention to river baths. The first of these baths was built for males in 1850; the first for females was built in 1863. At the close of 1884 there were eight such bath houses in operation, five for males and three for females. The patronage of these baths since the year 1880 has increased about 20,000 per annum. In the year 1888 in these municipal establishments almost 700,000 baths were taken, and on warm days in June and July many persons had to be turned away.

On account of the great number of petitions received from individuals and societies, and especially from workingmen's clubs, the city council was obliged to regard the increase of the river bath houses as a public necessity. In 1885, therefore, it was decided to increase systematically, year by year, the number of such establishments. Since then the following improvements have been made: In 1886 the area of the bath house for males on the Nordhafen was increased to 1,412 square metres, and other extensions were made. In 1887 two bath houses with swimming basins were erected for males, each at a cost of 20,000 marks. Each of these has a water-surface area of 242.19 square metres and have basins of 101.84 square metres. The latter are divided into two parts, for persons who can swim and those who can not. By the erection in each of seventeen closable closets accommodation is afforded to some of the visitors to unclothe and clothe themselves in private. For other visitors fifty-eight closable clothes wardrobes are provided. Furthermore, each basin has a springboard and a shower-bath room, with water supplied by the municipal waterworks.

On account of these improvements in the new bath houses their patronage became so great that it was necessary to exclude boys under 14 years of age and persons holding free bath tickets from the poor commission and to require such persons to go to the old bath houses. The price was fixed at 15 and 10 pfennigs, respectively, with or without dressing closets. Persons taking swimming lessons pay one fee of 3 marks (72 cents) to the swimming teacher. The acceptance of fees by employés is strictly forbidden. Monthly tickets can be had for 3 marks (72 cents) and season tickets for 10 marks ($2.38). The holders of such tickets are entitled to one bath daily and to the use of the shower bath and dressing closets so far as possible.

Furthermore, in 1887, but after the close of the bathing season, a new bath house with swimming basin was erected near the Schilling bridge. This bath house was intended for the alternate use of the sexes, and cost 11,000 marks. In the fall of 1888 the female bath house on the Nordhafen, owing to impurities in the water, was moved to another part of this pond.

Several other bath houses will be built so soon as the necessary consent of the river officials can be obtained.

The following table gives an idea of the business and financial results of the Berlin municipal river baths:

Year.	Number of bathers.			Number paying.	Number free.	Receipts.	Expenses.	Deficit.
	Male.	Female.	Total.					
						Marks.	*Marks.*	*Marks.*
1882	296,833	133,370	430,203	203,157	227,046	10,157.85	11,487.38	1,329.53
1883	363,013	161,589	524,602	259,212	265,390	12,960.60	19,743 95	6,783.35
1884	369,239	183,587	552,826	265,698	287,128	13,284.90	16,749.45	3,464.55
1885	395,428	200,167	595,595	285,443	310,152	14,272.15	20,437.42	6,165.27
1886	479,508	208,853	688,361	335,419	352,942	16,770.95	26,292.50	9,521.55
1887	449,466	186,650	636,116	312,789	323,327	16,656.45	26,998.47	10,342.02
1888	365,012	158,604	523,616	255,356	268,260	17,130.07	26,463.00	9,332.03

The fact shown by the above table, that in the year 1886 the number of bathers was greater than in the two following years, notwithstanding that in 1888 there were four more bath houses in operation than in 1886, was due to the summer of 1886 being exceptionally warm and favorable to the river baths. The decrease in the patronage of the river baths is also, perhaps, partially due to the increasing competition of the "Volksbadeanstalten."

Three other forms of public sanitary protection will next be discussed. They are vaccination, cattle-disease laws, and disinfection of articles which have come into contact with persons suffering from contagious diseases.

VACCINATION.

Vaccination is compulsory in Berlin.

With the increase of population the number of times and places for vaccination increased.

In the year 1882 the number of children vaccinated was 56,922; vaccinating physicians, 70; times and places fixed for the purpose, 910. In 1888 the number of children vaccinated was 74,530; vaccinating physicians, 73; times and places for the purpose, 1,069. For these public vaccinations rooms in the district schools were used.

The cash outlay incurred by the city in carrying out the vaccination laws was, in 1882, 19,986 marks, and in 1886 24,760.61 marks.

Not only in extent did vaccination increase during the period under report, but also in quality, owing to the establishment in 1887 of a royal institute for the production of calf lymph at the central slaughter-house in Berlin.

Up to the year 1887, in Berlin, as well as in the greater part of Germany, humanized vaccine, that is, vaccine obtained from human beings, was generally used. Against this practice, however, there had long been a strong movement, both in lay and in medical circles, and in favor of a return to the original system, advocated by the discoverer, Dr. Jenner. In Italy, Holland, Belgium, Switzerland, and also in some cities of Germany, there had long been institutes devoted to the production of animal lymph. In 1865 Dr. Pissin had established such an institute and had found many takers for his lymph.

The city officials first discussed this subject in 1869. A petition from the local medical-ætiological society asked that "the vaccine institute of Dr. Pissin be assisted by an annual appropriation from the State Government until the system of vaccinating from arm to arm has been definitely reformed, so that in this way the poorer classes of the population may also enjoy the advantage arising from the use of vaccine matter obtained direct from the cow."

This petition had great weight with the city council, as it was shown therein that by the use of humanized vaccine many diseases, such as syphilis, tuberculosis, scrofula, etc., could be conveyed from one person to another.

As, however, it was a matter for State, rather than municipal, action, nothing was done to assist Dr. Pissin in his undertaking. Likewise the State Government took no action. The general imperial compulsory vaccination law of April 8, 1874, and the Prussian law of April 12, 1875, did not indicate which sort of lymph was to be used. The public mistrust in regard to the use of human lymph constantly grew, however, and was strengthened by several unquestionable instances where diseases were thus conveyed from one person to another. In the meanwhile the animal vaccine system had been gradually gaining strength in medical circles. In 1879 the German medical congress unanimously approved of the use of animal vaccine. Thereupon Dr. Pissin addressed a communication to the magistracy, in which he recommended the establishment at the central slaughter-house of a central lymph institute for animal vaccination, from which the municipal vaccinating physicians could be supplied with lymph. Other cities had already established such institutes in connection with their slaughter-houses, especially Hamburg, Metz, and Basle. This example the city council was not indisposed to follow. A member of the council who had himself examined the institute at Basle spoke very earnestly in favor of the project. About the same time a request was made by the royal police presidency, which had received a communication from the director of the royal lymph institute, that a stall space be set aside at the central cattle market, and that the necessary material in cattle be temporarily supplied. Later on, in 1883, the police presidency inquired if the magistracy was willing to establish at the municipal slaughter-house a calf-lymph station. The city was under no obligation to do this, as, in accordance with the provisions of section 1 of the State law, the State alone was responsible for such expenses. As, however, the matter was one of such importance to its citizens, and as the magistracy had already such an institute in view, the city consented to the proposition on condition that expenses be restricted so far as possible. Inquiries were thereupon made in regard to the building and current expenses of such institutions in other cities, with favorable results.

Simultaneously with these negotiations with the royal police presidency, an agreement was made concerning the supplying of lymph thus produced for public vaccination, concerning the several rights of the contracting parties (the city and the police department, which is a State institution independent of the municipal government), and upon this basis the magistracy agreed to the establishment of a municipal lymph-producing station at the central cattle market, and a sum not to exceed 5,000 marks was appropriated for the purpose.

Before this could be carried out, however, in June, 1886, the city council received an unexpected communication from the royal police presidency, transmitting a communication from the minister of medical affairs, stating that the State had no longer an interest in the establishment of a municipal calf-lymph station, and that it was intended to establish in Berlin a State lymph institute to supply the whole province of Brandenburg, including the city of Berlin, with animal vaccine matter. For this purpose the minister desired better accommodations at the municipal central cattle market. The police presidency was instructed to negotiate with the city council on the two following points:

(1) Would the city supply rooms for such institute in one of the existing buildings of the central cattle market, fitted up suitably for the purpose, and rent the same to the State?

(2) Would one of the municipal veterinary surgeons employed in the central cattle market supply to the director of the institute, for a recompense, the necessary assistance in the handling of the lymph animals?

This change of plan on the part of the Government was more surprising, as no reasons were given therefor. It was later ascertained, however, that it was due to certain action which had in the meanwhile been taken by the federal council in regard to the carrying out of the vaccination laws.

A commission of experts which had been appointed by the imperial chancellor in November, 1884, had reported that the objections raised to the use of human lymph were well grounded, and in recommending the use of animal lymph had advised the issuance by the federal council of strict regulations on the subject:

"The general introduction of vaccination with animal lymph should be gradually brought about, and institutes should be established in sufficient number to supply the probable demand. So soon as such an institute is in position to supply the demand upon it for animal lymph, public vaccinations with such lymph should be begun in that district."

The following agreement was reached by the city council and the royal police presidency: For the institute for the production of calf lymph are necessary: room for sixteen calves in single stalls, a room for vaccination of the calves, and a room for the physician. The city supplies for these purposes a portion of the swine hall in the central cattle market. These rooms were fitted up at the expense of the State, in accordance with plans suggested by the city and approved by the minister. These rooms were taken by the State for 5 years, beginning April 1, 1887, at the rent rate of 1,000 marks per annum. At the expiration of the 5 years either party to the contract, it was agreed, was to have the right to terminate the contract by giving 6 months' notice to the other party.

The magistracy also consented to permit one of its veterinary surgeons to exercise the functions desired by the State.

On the 26th of May Dr. Schultz, who had been appointed by the State, commenced operations, and in the same year public vaccinations with the animal lymph thus obtained were begun in Berlin.

MUNICIPAL DISINFECTION STATIONS.

That the disinfection or destruction of articles capable of transmitting contagious diseases is of the greatest importance has long been recognized by statesmen as well as by scientists. By Prussian cabinet order of August 8, 1835, regulations were prescribed for the annihilation or disinfection, under severe penalties, of articles which had come in contact with a person suffering with either one of twelve diseases mentioned in these regulations.

These regulations did not result entirely satisfactorily, as the disinfectants therein were not of the most effective sort. The experiments of Robert Koch a few years ago led to the adoption of a sure and reliable disinfectant. He proved that rushing steam of a temperature of at least 100° C. in the shortest possible period of time was able to destroy the most obstinate microörganism. In accordance with this principle, the system of disinfection was changed in the Municipal Moabite Hospital when, in the year 1884, the outbreak of cholera in France compelled the adoption of energetic precautionary measures in Germany.

Both the city council and the police presidency soon recognized the desirability of opening to the public an institution of this sort, and accordingly one was erected on Reichenberg street at a cost of 111,447 marks, which was opened November 1, 1886. This building was so erected as to prevent the possibility of reinfection of disinfected articles by contact with articles not yet disinfected.

In wagons specially constructed for the purpose, the property of the city, articles destined for disinfection are brought from dwelling houses, packed in linen cloths or sacks, to the disinfection house. Here, in the department for infected articles, they are placed in the disinfection apparatus, which is supplied with wagons which can be drawn in and out. When the apparatus is filled, its doors are closed, and disinfection of the objects within is secured by exposing them for half an hour to the influence of rushing steam at a temperature of 110° C.

At the expiration of this time the articles are taken out on the other side in the department for disinfected articles and returned to their owners in wagons provided especially for the purpose.

The following table shows the business done by this institution:

Period.	No. of objects disinfected.	Number of persons owning disinfected objects.			Classes of persons owning disinfected objects resident in Berlin.			
		Total.	Resident outside of Berlin.	Resident within Berlin.	Of the rich classes.		Of the working classes.	
					Number.	*Per cent.*	*Number.*	*Per cent*
November 1, 1886, to March 31, 1887	26,400	860	29	831	803	96.6	28	3.4
April 1, 1887, to March 31, 1888....	60,197	2,728	71	2,657	2,477	93.2	180	6.8
April 1, 1888, to March 31, 1889.....	85,556	4,098	81	4,017	3,319	82.6	698	17.4

By police order of February 7, 1887, disinfection is obligatory with certain diseases (diphtheria, cholera, smallpox, spotted and relapse typhus) and can be made obligatory with certain others by special proclamation (typhus of the bowels, scarlet fever, epidemic diarrhea, measles, whooping cough, and pulmonary consumption).

The fee collected is 4 marks per cubic metre. For poor persons disinfection is free upon the requisition of a physician. The financial report of this institution is as follows:

Period.	Expenses.	Total receipts.	Receipts from fees.	Reductions.
	Marks.	*Marks.*	*Marks.*	*Marks.*
November 1, 1886, to March 31, 1887	13,841.31	6,263.40	6,228.70	....
April 1, 1887, to March 31, 1888	29,841.42	13,928.80	13,928.80	1,321.60
April 1, 1888, to March 31, 1889	35,889.50	15,910.45	15,794.61	813.20

NOTE.—The reductions are largely in connection with disinfection of municipal effects.

In addition to this disinfection station a second one has been erected on the Prenslauer Allee, which has four disinfection apparatuses.

CATTLE-DISEASE LAWS.

During the period under report there was no change in the provisions of the law whereby communal authorities are required to pay damages for horses killed on account of their having glanders and for cattle likewise slaughtered on account of lung disease, such communal authorities being authorized to cover their expenses thus incurred by levying therefor on the owners of horses and cattle within their communal districts.

During this period no cattle were killed on account of lung disease, and therefore there is no column in the following table to show an outlay for this purpose:

Year.	Number of horses with glanders killed.	Amount of damages paid for horses so killed.	Current expenses.	Total outlay.	Animals subject to levy for their quota of this outlay.		Tax levied per horse.
					Horses.	Cattle.	
		Marks.	*Marks.*	*Marks.*	*Number.*	*Number.*	*Marks.*
1882	23	5,210.00	2,612.81	7,822.81	26,197	2,347	0.30
1883	22	6,406.25	2,594.68	9,000.93	27,052	2,577	.30
1884	10	1,713.75	2,677.41	4,391.16	27,715	2,964	.20
1885	6	1,805.00	2,528.11	4,333.11	29,384	3,273	.15
1886	33	7,545.00	2,678.75	10,223.75	31,655	3,542	.30
1887	25	7,926.25	2,797.95	10,724.20	34,464	3,790	.30
1888	21	10,257.50	2,515.84	12,773.34	35,130	4,290	.40

SOLDERING GLASS AND PORCELAIN.

REPORT BY CONSUL HAWES, OF REICHENBERG.

I have the honor to call attention to a new process for soldering glass and porcelain to metals, which is exciting much interest here.

The invention is that of a Frenchman named Cailletet, but, as it is possible that the discovery has not yet been reported from France, and it seems to me such an important one to mechanics, physicists, and chemists, I venture to give a brief account of the process, which is extremely simple.

The part of a glass tube to be soldered receives first a thin layer of platinum by applying to the slightly warmed glass by means of a brush a quantity of neutral chloride of platinum and etherized oil of camomile. The oil evaporates slowly. As soon as the white, strong-smelling vapor has entirely disappeared, the temperature is raised to a red heat, and the platinum is thus reduced and coats the glass with a thin layer of metal. The plated glass is then put in a bath of sulphate of copper and the coating connected with the negative pole of a sufficiently strong battery, when a ring of copper is deposited so thick and strong upon the platinum that it can be worked in any way, and the glass tube can be treated as if it were metal as far as soldering is concerned.

It may be united to iron, copper, bronze, platinum, or any metal which will take solder.

The durability and strength when so soldered is remarkable. Mr. Cailletet has proven that in one of his apparatuses for liquefying gases the upper end of a tube so soldered withstood a pressure of more than 200 atmospheres without breaking in the least.

JNO. B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenburg, March 24, 1891.

TRADE OF MATAMOROS.

REPORT BY CONSUL RICHARDSON.

EXPORTS TO THE UNITED STATES.

I have the honor to transmit herewith the digest of invoice for the quarter ended March 31, 1891, for the consular district of Matamoros. This digest includes the agency at Mier, there being at present no agents at Victoria and Camargo.

In the transmission of this digest it seems to me proper to make brief comment upon some matters of interest during the quarter.

The past winter has undoubtedly been the most depressing, from every point of view, of any season for the past 30 years. Business has been at a standstill. This has been due, in part, to the prolonged drought, which has for 3 years cut off all crops and necessitated the purchase of those things that have heretofore been a source of revenue; in part to the practical workings of the new tariff law, which has shut off the traffic in live stock; and in part to the gradual transference of business done at this place to other centers that have better railway and harbor facilities. I have, in recent communications to the Department, intimated my belief that the business here had touched bottom. It will not, it can not, go lower. Notwithstanding the depressing conditions which I have enumerated, a better showing is made than at the end of the last quarter. The exports for the first quarter of 1890 show only $36,795.81, of which $8,950 were in live stock, against $37,734.99 for the quarter ended March 31, 1891. Deducting the live-stock exports, the quarter just ended makes a better showing by $9,889.18, an increase of 26 per cent. Indeed, the trade has been better than in the two previous quarters. Deducting the live-stock export from the returns for March 31, 1890, it will be noted that there has been a falling off of about 37 per cent. since last year. This decrease is due, without question, to the fact that there has been nothing to sell but hides, hair, and bones. It is the measure of drought influence in trade. The yearly decrease noted is due to the fact that the railroad towns of the interior and Laredo have afforded better facilities for shipment than Matamoros. But we now rest on "hard pan." From this on trade will hold its own with steady increase. An unusually large acreage of corn and cotton has been planted, while there is no falling off in cane. There has been rain enough to start the crops well, though not enough to insure a harvest.

RAILROADS AND MINES.

There are some signs of promise. The grading is going forward slowly on the Corpus Christi and South American Railway, and with some fear and trembling we are beginning to believe that in a few months' time there will be easy communication with the north. The work of track-laying will be commenced soon. The Matamoros, Victoria, and San Luis Potosi road, known as the Cuellar concession, is feeling its way along with equal moderation toward Victoria. Ties are now being delivered and steel rails are en route from Belgium.

The recent renewed interest in mining at San Nicolas, and the fact that the president of the road has large property at San Fernando, which is comparatively valueless without access to it, and the purchase and stocking in the past year of an immense ranch covering 640 square leagues near San Fernando—all give grounds for hope that at least the Matamoros, Victoria, and San Luis Potosi Railroad will not prove a railroad decoy. The ranch referred to is owned by capitalists in the city of Mexico. It is thought that stock can be raised and shipped into the interior with profit now, and that the present restrictions in the stock trade can not be maintained long. This company is prepared to maintain this ranch for years, if need be, without sales, and when the bars into the market of the United States are let down they propose to be on hand with their herds ready for the better prices. They also propose to engage quite extensively in agriculture. This ranch is already surveyed, and is, in part, fenced and stocked.

These are some of the present signs of better times for this part of Tamaulipas.

The completion of the two roads referred to will change all this, bringing back some of the old business and bringing in new. There is, however, as much unproductive labor as ever.

VITAL STATISTICS.

Not the least among the depressing conditions during the past winter has been the widespread sickness and great mortality, as will be seen by the following table:

Table of mortality in the city of Matamoros for the quarter ended March 31, 1891.

Description.	January.	February.	March.	Total.
Smallpox	3		1	4
Diphtheria	1			1
Typhus			1	1
Grippe			3	3
Pneumonia			29	29
Other pulmonary diseases	13	20	15	48
Over 60 years and under 3 years	13	14	12	39
All others	6	6	11	23
Total	36	40	72	148

The total number of deaths was 148, of which 72 occurred in the month of March, when nearly the entire city was prostrated with *la grippe*. The peculiarity of this epidemic has been its partiality for pneumonia. Of the 148 deaths, 80 were occasioned by pneumonia or pulmonary diseases; 6 by contagious diseases, of which 4 were of smallpox; and 39 were of people over 60 and under 3 years of age.

The proportion of old people and children is larger than usual. The deaths from smallpox are few since it has been epidemic here, as almost everywhere in the southwest. The suggestive figures are those indicating mortality from pulmonary diseases. Of all these deaths there is scarcely a single one that can be traced properly to climatic conditions. The poor people of this city have been starving, many having only the daily ration of a spoonful of frejoles and one tortilla. The suffering has been great, and there are no organized agencies for relief. The houses of most of them are not as comfortable as the stables and hogpens of the well-to-do farmers of the north. Their clothing is no protection. When *la grippe* swooped down on them, there was nothing to do but die. Had they been well clothed, well housed, and well fed, they would have lived.

It is my earnest wish that we may never pass through another winter like the past. The depression consequent upon the paralysis in business, the suffering of the people, and the great mortality was felt by all, but can be described by no one.

Table showing the value of declared exports from Matamoros to the United States during the quarter ended March 31, 1891, in United States gold.

Articles.	Value.	Articles.	Value.
Hides and calfskins	$17,731.46	Cotton seed	$282.50
Goat, deer, and other skins	20,817.35	Expenses	388.31
Horsehair	7,824.87		
Cattle hair	440.00	Total	48,070.09
Bones	570.60	Less exports from the Mier agency	10,335.10
Duck feathers	15.00	Actual exports	37,734.99

Table showing the value of declared exports from Matamoros to the United States from 1887 to 1891.

Quarter ended—	Live stock.	Other than live stock.	Total.
March 31, 1891		$37,734.99	$37,734.99
December 31, 1890	$8,950.00	27,845.81	36,795.81
September 30, 1890	21,435.20	20,206.45	41,641.65
June 30, 1890	66,346.95	41,442.83	107,789.78
March 31, 1890	24,962.00	58,829.02	83,791.02
March 31, 1889	54,369.50	50,784.95	105,154.45
March 31, 1888	42,367.50	62,068.78	104,436.28
March 31, 1887	47,490.00	88,767.90	136,257.90

JOHN B. RICHARDSON,
Consul.

UNITED STATES CONSULATE,
Matamoros, April 4, 1891.

THE JAPAN STREAM.

REPORT BY CONSUL SMITHERS, OF OSAKA AND HIOGO.

I have the honor to transmit herewith an interesting letter on the Kuro, Siwo, or Japan Stream, by John J. Mahlmann, harbor master at this port, which should be of interest to the sailing masters of the United States.

E. J. SMITHERS,
Consul.

UNITED STATES CONSULATE,
Osaka and Hiogo, May 2, 1891.

THE KURO SIWO, OR JAPAN STREAM.

[Inclosure in Consul Smithers's report.]

KOBÉ, *April 25.*

To the Editor of the Hyogo News.

DEAR SIR: The total loss of several fine steamers between Yokohama and Kobé, including the *Carnarvonshire*, *Ulysses*, and the Turkish man-of-war *Ertougroul*, having been in each case and after careful inquiry attributed to unknown currents, has probably awakened foreign shipmasters to the fact that the present charts and the China Sea directory are wanting in that completeness so very necessary towards preventing shipwreck, namely, a trustworthy and full description of currents on the southeast coast of Japan and their occasional eccentricities, and that this defect in chart and directory should be fully furnished in their next issue. With this object, and in order to lessen the danger to navigation between the ports of Yokohama and Kobé, I beg of you to kindly publish the following short summary from notes on the above stream and tides, which, being taken from observations extending over three hundred passages between the two places, I can sincerely recommend to all concerned in shipping and to the different hydrographic offices of the world.

It is generally known that the Kuro-Siwo, or Black Stream, also called the Japan Stream, arises from the equatorial current in the Pacific, which latter flows in a westerly direction until it reaches the East Indian Archipelago, where, being obstructed by land, it divides and is deflected, the southern branch flowing till it strikes the coast of Australia and there turns eastward, while the northern portion, forming the Kuro-Siwo, sweeps by the Philippines, the Loo-Choo Islands, and the south and southeast coast of Japan, continuing on its course across the North Pacific as far as the American coast. Arising from the equatorial current, this stream is essentially warmer than the ocean through which it passes, and its limits can be easily ascertained by a thermometer. The limits or width of the Kuro-Siwo, and also its velocity, are much influenced by the monsoons of the China Sea, whereas its set, or the direction in which it generally flows, is often considerably deflected by storms in the Pacific Ocean. Under ordinary conditions of the atmosphere the Kuro-Siwo, passing through Van Dieman's Strait, makes nearly in a straight line for Rock Island, touching Osima on its course. From Rock Island, after changing its set slightly eastward and touching Noshimasaki, it continues on its way across the Pacific. Steamers making the passage between Osima and Rock Island on the line joining the two places, or even outside of it, will often miss the stream entirely. This is usually the case during winter months, but in the summer it is mostly found on this line to a more or less extent, and during fine weather this line joining Osima and Rock Island may be taken as the northern limit of the Kuro-Siwo, easily distinguishable by floating seaweed, driftwood, ripples, and even by its dark color.

Inside of this line, or northern margin of the Kuro-Siwo, we have during fine weather two distinct bodies of water, the one adjoining the stream being usually without motion and the other a part of the tide belt which surrounds Japan. The body of water between this tide belt and the Japan Stream, although usually at rest, has at times been known to run counter to the Kuro-Siwo, of which I may give the following very remarkable instance: In February, 1879, the Mitsu Bishi sailing vessel *Sumanoura-maru*, Captain Spiegelthal, became dismasted some 10 miles off Omaesaki and drifted during the following 4 days, in perfectly calm weather, to within 30 miles of Osima, or at the rate of about 25 miles per day to the westward. The width of this body of water varies according to the direction and force of the wind, expanding during strong northerly winds and contracting whenever the winds are from the southward and eastward. In fact, during, and sometimes even before, these latter winds reach the coast, this body of water disappears entirely, for at such times the Kuro-Siwo is deflected from its ordinary east-northeast course and sets at a more or less angle towards the shore, merging eventually into the tidal streams and causing extraordinary high and strong tides along the coast. The weather at such times is generally thick, and it is then that captains navigating between Rock Island should be on their guard against this treacherous inset, steamers having been set shorewards as much as 16 miles in as many hours, and in place of making Osima on their starboard bow have made it several points on their port bow. The same caution holds good when steering from Osima for Rock Island, of which we have a sad but significant proof in the disaster of the French mail steamship *Nile*, which was lost some years ago on the coast of Idzu, with nearly all hands. A vessel is very seldom set in during fine weather, or, if it has occurred, there have been no evil consequences, and the incident has probably been forgotten as soon as experienced. This should not be so, but such is human nature. During thick weather, however, these shipwrecks should be borne in mind, and the cause thereof as well, and all due precaution should be taken accordingly when shaping a course along this part of the coast.

The tide belt along this coast is of varying width, extending at different times and places 5 or 6 miles off shore, while at the prominent headlands it may not extend more than half a mile; but wherever it is so narrowed it runs stronger than at other places. At Osima the flood stream seems to disappear wholly at times, owing to the Kuro-Siwo, which strikes this headland and evidently runs over the flood stream, or it may be that the tide at such times makes its way through the passage between Osima and the mainland. The flood sets to the westward along this coast, and both it and the ebb tide set somewhat into the deep bays, the former along their eastern, and the latter along their western, shores.

Again I say that captains navigating along this coast should be always on the alert for the inset before alluded to, but especially so with winds from the southward and eastward and a falling barometer. When bound from Yokohama to Kobé, after having passed Rock Island, they should take the inshore passage, weather permitting, keeping just at the margin of the tides. By so doing the inset will be avoided, and they will have the advantage of verifying their position at the last possible moment in case of being overtaken by thick weather. The difference in distance between the inshore track and a straight one is insignificant, the former approaching the great circle touching Rock Island and Osima very closely. At all events, a straight course should never be steered, and, if the inshore passage can not be taken advantage of, then the next best thing to do is to shape such a course from Rock Island as will take the vessel well within range of Matoya light. This would pass Omaesaki at a distance of 10 miles, an advantage for verifying position which should not be neglected. The bearing on which Matoya light heaves in sight would indicate at once whether the vessel had made her course or had been set shorewards, and, should the weather become thick after having passed this light, which it often does, then the distance to Osima being but short, the vessel is not likely to be set in to any great extent. A good plan is to shape a course for clearing Osima as soon as Matayo light is sighted, *i. e.*, its full range, or 16 miles.

In concluding, I may state that I disclaim any qualification for instructing the coasting captains in regard to any currents or tides along this coast, my sole object in writing being to bring the occasional strong inset between Rock Island and Osima before the notice of captains who are strangers thereto, as also before the notice of those who have opportunities of informing them thereof, in order to prevent the frequent shipwrecks on this coast and the frightful loss of human life often attending the same; and I earnestly trust that newspapers will kindly assist me in gaining the end aimed at by freely copying the above few crude remarks. I have, however, one last word for masters of coasting vessels, which is that my offer made in January, 1879, to compile all reports on unusual currents still holds good, and that any reports sent to my office will be very gratefully received and duly published for the benefit of brother shipmasters.

I am, etc.,

JOHN J. MAHLMANN,
Harbor Master, Kobé.

TWENTY YEARS OF GERMAN TRADE.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

It will be remembered that the first general tariff law affecting the whole of Germany, which was adopted on the 1st of October, 1870, and amended by the act of July, 1873, was a distinctly revenue tariff, without any declared purpose of protection. It continued in force until the 1st of January, 1880, when it was superseded by the protective tariff law which had been enacted on the 15th of July previous. From 1870, therefore, down to the close of 1889 united Germany had enjoyed 10 years' experience under a tariff for revenue, and likewise 10 years under a protective system, which was not only radical and far reaching in its original form, but has been twice amended: first, by the act of May 22, 1885, which advanced duties on several important classes of imports, and again by the act of December 21, 1887, which increased the tariff on cereals and distilled liquors. Moreover, American pork products, which were imported in vast quantities during the period from 1870 to 1880, have been practically excluded by imperial edict since 1881.

With these conditions in mind, it will be interesting to compare the values of exports and imports during 1880, the first year under the protective system, with those of 1889 (the statistics for 1890 not being yet available), by which time the whole industrial and commercial machinery of Germany had become thoroughly adapted to the new policy.

The aggregate value of German exports and imports for the 2 years specified was as follows:

	Marks.
1880	5,806,108,000
1889	7,343,481,000
Increase	1,537,373,000

This increase is equal to 26.4 per cent.

The increase of imports exceeds that of exports in the following ratio:

Description.	1880.	1889.	Increase.
	Marks.	*Marks.*	*Per cent.*
Imports	2,859,928,000	4,087,060,000	42.9
Exports	2,946,180,000	3,256,421,000	10.5

This marked disparity between the increase of imports and exports may have, at first glance, a more sinister appearance than will be justified by a further and more complete study of the situation. The past decade has been, for Germany, a period of extraordinary development and activity. The population of the Empire has rapidly increased, notwithstanding constant and important losses through emigration. The food-producing capacity of the country had been nearly or quite fully developed in 1879, so that the subsequent increase of population required a proportionally increased import of food products.

The manufactures of Germany have broadened and developed more rapidly within the past 10 years than during any previous decade. But Germany is, like Switzerland, poor in natural supplies of raw materials. Her mines, forests, and fields have reached their full productive capacity; there are no new mineral treasures to be discovered and developed, so that the expansion of industry necessarily entails a corresponding increased import of raw materials. The fact that a proportionate share of the products of this vastly increased manufacture has not been exported is due to a variety of causes, more or less temporary, a few of which may, for the present purpose, be briefly cited. Prior to the unification of the German Empire in 1870 the people of the several states had been largely devoted to agriculture. Few large fortunes existed outside of the royal and noble families; wealth was more equally distributed among the people than in most European countries; wages were low, and the people as a whole were, in comparison with those of France or England, in moderate financial circumstances. All the conditions of life, more or less, were limited; habits were frugal, houses simply furnished, and luxuries practically unknown to a large majority of the population. The 10 years just past have witnessed an important change in all these respects. With the development of manufactures and foreign trade wealth has rapidly increased. There has been a notable drift of rural population to the cities and towns, building has been rapid and continuous, real estate values have advanced, dwellings have become larger, more luxurious, and better furnished, and the whole system of family life has become more elaborate and expensive. In this rapid improvement of their personal surroundings the people have naturally preferred articles of home manufacture, so that during the decade under consideration the products of German industry have been largely absorbed by local demands and thus withheld from export. Moreover, the industrial situation, and consequently the exporting capacity of the country, have, since 1888, been affected by new conditions, the full force and effect of which can not yet be accurately measured. During the 8 years preceding that epoch the policy of the Imperial Government had been in favor of the agricultural, rather than the industrial, classes. In order to help the farmers and check the tendency of the rural population to emigrate or move to the towns, foreign meats and animals were subjected to increased import duties, or, as in the case of American pork, excluded altogether. The duties on cereals and liquors were advanced and bounties awarded to exports of homemade beet sugar. Under these circumstances the cost of living inevitably increased. The supply of bread and meat was not perceptibly augmented, but their cost rose until the German workingmen, particularly in the mines and iron mills, united in strenuous demands for higher wages. They claimed a share in the steadily augmenting prosperity of the time in which they lived. The miners' strikes of 1888 and the socialist agitations which followed combined with the enormously increased consumption of fuel to raise the price of coal, until the cost of many manufactures of iron, steel, and other metals has been pushed above the limit of profitable export. The important exports of steel manufactures to the United States from the Dusseldorf district, for example, shrunk to a fraction of their former proportions when the growing price of coal lifted the cost of production above the point at which German steel came into competition with that of Great Britain. The development of all manufactures, the substitution of coal stoves and furnaces in dwellings for the old porcelain wood-burners, and the expansion of railway traffic has increased the aggregate consumption of coal beyond the expansion of mining capacity, so that to-day one German steamship company derives its fuel supply mainly from England and another has begun the importation of coal from the United States. Finally, the colonial ventures of Germany have not yet developed their expected influence on the export trade of the mother country, and their outlet to the Argentine Republic, which had become important, is now under a cloud of financial uncertainty.

Whether these conditions, which have, in the aggregate, operated to restrain the increase of Germany's exports so far below that of her imports, are permanent and inflexible or merely temporary and susceptible of being ameliorated or removed by skillful legislation and improved industrial methods is the great problem which now occupies German economists. The present general and determined strike of coal-mine operatives in Westphalia and the aggressive attitude of the labor party throughout the Empire do not portend any immediate amelioration in the costs of manufacture.

From an American standpoint, the chief interest in this review will naturally attach to such a presentation of statistics as will best illustrate the relation which the United States has borne toward Germany during this interesting period of the latter's development. Nearly 76 per cent. of Germany's entire foreign trade is with eight countries, viz, Great Britain, Austria, France, Belgium, the United States, the Netherlands, Russia, and Switzerland. Her total import from each of these countries and its relative percentage of the whole during the years 1880 and 1889, respectively, were valued as follows:

Table giving a comparison of imports into Germany in 1880 and 1889.

Countries.	1880.		1889.	
	Value.	Percentage of total.	Value.	Percentage of total.
Austria-Hungary	$98,749,000	14.3	$127,865,262	13.1
Great Britain	83,693,414	12.3	160,617,394	16.5
Russia	80,126,746	11.8	131,327,686	13.4
France	59,068,406	8.7	67,933,430	6.9
Belgium	46,379,536	6.8	90,254,314	8.2
Netherlands	46,083,256	6.8	68,110,840	7
United States	42,140,280	6.2	75,565,400	7.7
Switzerland	33,954,988	5	43,095,612	4.4

So that during the 9 years under consideration Great Britain and her colonies, as a source of German imports, rose from the second to the first place, and the United States climbed from the seventh place to the fifth in order, passing above both France and the Netherlands. If we consider the percentage of increase, the United States makes a still better showing, rising to the second place in the list with an increase of 79.6 per cent., against 91.8 for Great Britain, 72.8 for Belgium, 63.5 for Russia, 47.4 for the Netherlands, 29.4 for Austria-Hungary, 26.5 for Switzerland, and 14.9 for France.

Turning now to the exports of Germany, we find the following interesting comparison:

Table giving a comparison of exports from Germany in 1880 and 1889.

Countries.	1880.		1889.	
	Value.	Percentage of total.	Value.	Percentage of total
Great Britain	$105,057,960	15	$155,256,444	20
Austria-Hungary	70,468,944	10	81,101,356	10.5
France	69,167,322	9.9	50,019,508	6.4
Netherlands	54,135,718	7.7	61,448,982	7.9
Russia	54,031,236	7.7	46,859,582	6
United States	42,951,860	6.1	94,018,806	12.1
Switzerland	41,796,370	6	42,221,676	5.4
Belgium	39,648,396	5.6	32,656,218	4.2

Here at last should be found solace and comfort for the German exporters and statesmen who have railed so incessantly against the economic policy of the United States since our tariff legislation of 1883. From the sixth place as a purchaser of German goods in 1880 our country rose to second place in 1889, with a rate of increase amounting to 119.4 per cent., against 47.8 per cent. increase for Great Britain, 15.2 for Austria, 13.6 for the Netherlands, and a decrease for the rest as follows: Russia, 13.2 per cent.; Belgium, 18 per cent.; France, 27.9 per cent.; while Switzerland remained stationary.

This demonstration becomes still more complete when we take the German exports to the United States during 1890, which amounted to $101,465,526, an increase of $7,383,084 over those of the preceding year. The returns for the first quarter of 1891 show a small decrease in German exports to the United States compared with those of the same quarter in 1890, but, with the exception of woolens and cutlery, this falling off does not appear to be attributable to changes in import duties made by the United States tariff law of October, 1890. In fact, the most important deficit is in sugar, which became duty free by the provisions of that act after April 1, 1891, and was therefore naturally withheld from export to the United States during the quarter preceding that date.

The deficit of the past quarter is still further attributable to two facts: first, the overburdened condition of the American market by reason of excessive importations during 1890, in anticipation of the tariff legislation, which was then pending; and, second, the long, severe winter in Germany, which closed the Rhine and other navigable water courses during a period of several weeks and greatly restricted shipments of heavy freights to the seaboard.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, April 28, 1891.

GERMAN RAILWAY STATISTICS.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

MILEAGE, TRACKS, AND STATIONS.

According to the official Reichs-Anzeiger, the following are the correct German railway statistics for the fiscal year 1889–'90:

The total length of State railways and private railways under State direction was 36,787.04 kilometres, of which 11,626.05 kilometres were double tracked and 89.67 kilometres had three or more tracks. There were 3,460 depots, 1,665 way stations, and 1,054 stopping places. The details are given in the following paragraphs.

The imperial railways in Alsace-Lorraine had a length of 1,542.52 kilometres, of which 636.16 kilometres were double tracked. There were 164 depots, 67 way stations, and 57 stopping places. Military railway, 45.61 kilometres, 6 depots, and 3 way stations.

The Prussian State railways had a length of 23,943.64 kilometres, of which 8,919.84 kilometres had two tracks and 84.96 kilometres three or more tracks. There were 2,112 depots, 925 way stations, and 629 stopping places.

The Bavarian State railways had a length of 4,652.56 kilometres, of which 414.84 kilometres were double tracked. There were 522 depots, 158 way stations, and 137 stopping places.

The Saxon State railways had a length of 2,303.23 kilometres, of which 734.43 kilometres had two, and 1.16 kilometres three or more, tracks. There were 226 depots, 150 way stations, and 84 stopping places.

The Würtemberg State railways had a length of 1,593.38 kilometres, of which 304.9 kilometres were double tracked. There were 275 depots, 14 way stations, and 31 stopping places.

The Baden State railways had a length of 1,383.41 kilometres, of which 520.32 kilometres were double tracked. There were 56 depots, 233 way stations, and 70 stopping places.

The Mayence-Neckar Railway had a length of 99.17 kilometres, of which 79.20 kilometres were double tracked. There were 15 depots, 10 way stations, and 1 stopping place.

The Upper Hessian railways had a length of 208.45 kilometres, 11 depots, 21 way stations, and 14 stopping places.

The railways of Mecklenburg-Schwerin under the direction of the State had a length of 602.56 kilometres, of which 20.36 kilometres were double tracked. There were 36 depots, 48 way stations, and 8 stopping places.

The Oldenburg State railways had a length of 409.35 kilometres, 32 depots, 32 way stations, and 18 stopping places.

The private Weimar-Berka-Blankenhain Railway had a length of 32.16 kilometres, 5 depots, 7 way stations, and 2 stopping places.

The six private railways under State management had a length of 103.94 kilometres, 11 depots, 10 way stations, and 8 stopping places.

The fifty-nine private railways under their own management had a length of 4,389.58 kilometres, of which 823.37 kilometres were double tracked. There were 437 depots, 344 way stations, and 133 stopping places.

Altogether, therefore, there were in Germany 41,220.56 kilometres of railway, of which 12,449.42 kilometres had two tracks and 89.67 kilometres three or more tracks. There were 3,909 depots, 2,019 way stations, and 1,195 stopping places.

ROLLING STOCK.

On State railways and railways under State direction there were 12,620 locomotives, 23,487 passenger cars with seats and standing room for 997,832 persons, and 254,776 freight cars with a carrying capacity of 2,502,568 tons. The value of this property was 562,878,987 marks, 188,073,453 marks, and 741,463,101 marks, respectively.

On private railways under State management there were 21 locomotives, 36 passenger cars with seats and standing room for 1,407 persons, and 776 freight cars with a carrying capacity of 7,524 tons. The value of this property was 765,440 marks, 213,284 marks, and 1,951,874 marks, respectively.

The private railways not under State management had 855 locomotives, 1,881 passenger cars with seats and standing room for 80,643 persons, and

18,007 freight cars with a carrying capacity of 178,314 tons. The value of this property was, respectively, 33,469,660 marks, 13,168,883 marks, and 51,194,935 marks.

In addition to these, the State railways had 1,557 postal cars and the private railways 90.

PASSENGERS.

The number of persons transported on State railways and railways under State direction was 343,804,927, of whom 1,940,661 traveled first class, 34,765,421 second class, 212,038,739 third class, 88,641,932 fourth class, and 6,418,174 were soldiers.

On the private railways under State management 1,265 persons traveled first class, 84,938 second class, 912,983 third class, 23,921 fourth class, and 10,279 were soldiers; total, 1,033,386.

On private railways not under State management 140,019 persons traveled first class, 3,582,195 second class, 26,005,625 third class, 1,517,091 fourth class, and 741,763 were soldiers; total, 31,986,693.

The total number of railway travelers was 376,825,006, of whom 2,081,945 traveled first class, 38,432,554 second class, 238,957,347 third class, and 90,182,944 fourth class. On an average, 24.52 per cent. of the seats and standing places were occupied.

FREIGHT.

The total amount of freight transported was 212,093,339 tons, of which 192,115,961 tons were transported on State railways or railways under State direction, 880,131 tons on private railways under State management, and 19,097,247 tons on private railways not under State management.

The sorts of freight transported on State railways were: Express and fast freight, 664,669 tons; ordinary freight, 169,560,801 tons; military freight, 276,097 tons; cattle, 2,292,461 tons; supplies, 19,341,933 tons. On private railways under State direction: Express and fast freight, 2,398 tons; ordinary freight, 857,490 tons; military freight, 356 tons; cattle, 2,115 tons; supplies, 17,772 tons. On private railways not under State management: Express and fast freight, 86,020 tons; ordinary freight, 18,431,782 tons; military freight, 27,367 tons; cattle, 303,981 tons; supplies, 248,147 tons.

In addition to this, 1,720,313 tons of wares were transported without charge. On an average, on State railways each ton was transported 108.8 kilometres; on private railways under State management, 16.31 kilometres; and on private railways not under State management, 48.85 kilometres.

COST OF BUILDING.

The building costs of all the German railways were 9,775,901,446 marks, or, on an average, 240,388 marks per kilometre. To this must be added loss on exchange, interest during building period, and other expenses, 738,647,224 marks, while gain on exchange and other receipts, amounting to 498,347,186 marks, must be deducted. Hence the total building cost was

10,016,201,484 marks, or, on an average, 246,297 marks per kilometre. In consequence of differences at the time of change of ownership, as, for instance, when private roads came into the possession of the State, the cost to the present owner of the railways was 10,259,014,928 marks, or, on an average, 252,268 marks per kilometre.

The capital thus used was obtained as follows: For State railways, by means of a State loan of 2,591,675,576 marks, from extraordinary funds 627,977,583 marks, and otherwise 6,260,641,223 marks; for private railways, by the emission of shares valued at 453,108,386 marks, obligations to the extent of 293,235,056 marks, otherwise 4,162,000 marks, and the debt is 28,214,504 marks.

RECEIPTS.

The receipts of all the roads from passenger traffic were 333,894,172 marks, or 8,350 marks per kilometre as follows: From first-class tickets, 15,821,806 marks; second-class, 86,844,192 marks; third-class, 158,750,248 marks; fourth-class, 54,079,803 marks; military transportations, 7,747,966 marks; transportation of luggage and dogs, 10,650,157 marks. The receipts from freight were as follows: Fast freight, 20,259,183 marks; ordinary freight, 771,280,177 marks; postal matter, 1,514,056 marks; military matter, 2,910,930 marks; cattle, 25,718,348 marks; supplies, 28,639,555 marks; other sources, 22,919,092 marks; total from freight, 873,241,311 marks, or 21,256 marks per kilometre. In addition to these there were other receipts, exclusive of interest on mortgages, amounting to 70,005,061, which raised the total receipts to 1,264,656,117 marks, or 31,104 marks per kilometre.

EXPENSES.

The expenses were as follows: General management department, 49,796,114 marks; executive railway department, 43,220,066 marks; executive transportation department, for depot service 80,773,723 marks, for freight service 44,735,329 marks, for train employé service 108,477,471 marks; total personal expenses, 327,002,661 marks, or 8,042 marks per kilometre. The other expenses were: For the general management department, 21,099,510 marks; executive railway department, 4,536,378 marks; executive transportation department, for depot service 10,428,465 marks, for freight service 5,780,267 marks, for train service 6,417,384 marks; keeping the roads in order, 76,719,605 marks; costs of railway transportation, 138,425,837 marks; repairs of permanent way, 46,638,949 marks; repairs of rolling stock, etc., 38,711,631 marks; use of foreign roads, 13,638,145 marks; use of foreign cars, etc., 3,426,494 marks; total, 374,427,735 marks, or 8,935 marks per kilometre. The total business expenses, exclusive of those for extensions and interest, were 683,117,000 marks, or 16,801 marks per kilometre, which was 54.02 per cent. of the total receipts.

SURPLUS.

The total surplus, after deducting expenses from receipts, was 505,681,134 marks, or 44.04 per cent. of the gross receipts, which represents 5.88 per cent. of the building cost and 5.6 per cent. of the capital invested. If the cost for extensions and interest be deducted, the surplus per kilometre will be reduced to 14,303 marks. To this surplus are to be added 721,245 marks from the repair and reserve fund and 2,156,227 marks from earnings on foreign roads, etc., while 2,348,166 marks are to be deducted, this amount being required by law to be laid aside for the repair and reserve fund. Thus the real available surplus was 566,210,440 marks.

EMPLOYÉS.

The total number of officials and workmen employed, on an average, during the year was 315,729, or 7.77 per kilometre. The salaries and wages of these amounted to 362,167,226 marks, or 8,907 marks per kilometre, or 28,581 marks per 100,000 marks of gross receipts, or 1,146 marks ($270) per man. Of this amount, 14,955 persons employed in the general management department received 49,767,121 marks (an average of 3,328 marks, or $800); 110,515 persons employed in the railway service received 78,857,457 marks (an average of 704 marks, or $167); 190,259 persons in the transportation service, 233,542,648 marks (an average of 1,229 marks, or $300). The average number of persons employed in the workshops during the year was 55,363, or 139 persons per kilometre of road. The amount paid them was 56,305,593 marks, or 1,416 marks per kilometre of road (an average of 1,020 marks, or $204).

ACCIDENTS.

The number of accidents resulting in death, or serious injury of rolling stock, or causing a delay of at least 30 minutes to passenger trains or 60 minutes to freight trains (not taking into account accidents which occurred in workshops or on roads in course of construction) was 3,088, in which 602 persons were killed and 2,112 wounded. Of these, 2,840 occurred on State railways, 375 being running from the track, 273 collisions, and 2,192 other accidents.

On State railways 561 persons were killed and 1,978 wounded. On the private railways under State management only one accident occurred by which a railway official was injured. On private railways not under State management there were 47 runnings from the track, 31 collisions, and 169 other accidents, resulting in the death of 41 persons and the injury of 133. The total number, therefore, was 602 killed and 2,112 wounded. In addition to these, 4 persons were killed and 350 wounded while working on the track, loading or unloading cars, etc. One hundred and eighty-six attempts to commit suicide were made, resulting in 157 persons being killed and 29 wounded.

ADDITIONAL STATISTICS.

In addition to the foregoing, 177 locomotives, 390 passenger cars, and 4,151 freight cars were in use upon narrow-gauge railways, the capital thus invested amounting to 45,426,900 marks, or 52,066 marks per kilometre. The total receipts were 3,975,703 marks (4,682 marks per kilometre). The total expenses were 2,486,227 marks (2,928 marks per kilometre). The surplus was 1,489,476 marks, or 3.28 per cent. of the invested capital. The number of officials and employés was 1,463. There were 55 accidents, in which 4 persons were killed and 23 wounded.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, May 9, 1891.

A NEW ELECTRIC BOAT.

REPORT BY CONSUL CATLIN, OF ZURICH.

Zurich's remarkable activity in the field of electric invention has, within the last few days, been newly demonstrated by the trial trip of the new electric-accumulator boat *Zurich*, which took place here on the 7th instant.

The shores of the lake were lined with spectators curious to witness the novel spectacle. The trial proved in every way successful, and, as the event may be said to introduce a new era, or, at all events, to mark a long step forward in navigation, a description of the boat is undoubtedly of interest and value. It is claimed for it that it is the first of its kind on the European continent and the largest in existence anywhere. England has already built some smaller ones, accommodating 30 or 40 passengers, while this one has room for from 80 to 100. Its length is about 50 feet, its draft 4 feet, and its total weight about 16 tons, including machinery and accumulators, which alone weigh about 6½ tons. With the exception of the lever for stopping the current, the steering wheel, and the apparatus for regulating the amount of power to be applied (amperometer and voltameter), the deck is clear of all machinery. In the hold where the machine room is located there are ranged in order no less than 56 accumulators for storing the electric power, which is thence transmitted to the dynamo machine, the armature of which, thus set in motion, communicates directly with the screw propeller. On the trial trip the revolutions varied from 248 to 365 per minute.

The accumulators, which are an invention of the machine factory at Oerlikon, near this city, vary from those hitherto in use, both in the form of their construction and in the use of a gelatinous electrolyte for decomposition by the electric current. The latter does not act directly upon the leaden plates themselves, but upon oxide of lead placed in the interstices of lead gratings, the lead itself serving merely as bearer and conductor of the current. The gratings are constructed with triangular openings, and are provided with two channels, instead of one, for conducting the current. The system of plates, when placed perpendicularly, is such that the positive current is conducted by the upper, and the negative by the lower, corners, thus insuring a more equable distribution of the stream and a longer use of the plates.

The rate of speed attained on the trial trip was highly satisfactory. A course of about 3 miles was covered in 25 minutes and 25 seconds, showing a speed of about 8 miles per hour. A good average of 6½ miles per hour may be counted upon for longer trips. One man can manage the boat, a single movement of the lever sufficing to set the craft in motion either forward or backward or to stop it. It is also said to obey the rudder readily. The cost of the *Zurich*, as the new boat is called, is between $5,000 and $6,000. It will be shipped from here in a day or two to Frankfort, where it is to be exhibited as a specimen of Swiss inventive skill at the electrical exposition in that city, and afterwards used in regular passenger traffic on the River Main.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Zurich, May 11, 1891.

AMERICAN LABORERS IN COLON.

REPORT BY CONSUL SIMS.

I wish to call attention to the condition of the Americans who come to Central and South America in search of work.

Day labor here is cheap. Fifty cents in Colombian silver (35 cents gold) is the regular daily wages, and Americans can not live on it, and, not being acclimated, can not do the work required.

Every day American citizens come to me to be sent home. They are not seamen, and I have to rely on the kindness of masters of American vessels to send the poor fellows home.

The Nicaragua Canal has lured many of these poor people here, and now they are adrift barefoot, naked, and starving in Central and South America, dependent on the consideration of American consuls to provide them means to get back home. Some poor fellows who were sick and unable to work their passage back have doubtless died in the swamps.

I hope this emigration of laborers from the United States to this country can be checked; there is no room for them, and death alone awaits them here.

W. E. SIMS,
Consul.

UNITED STATES CONSULATE,
Colon, April 24, 1891.

AMERICAN OLEO OIL IN THE NETHERLANDS.

REPORT BY CONSUL GARDNER, OF ROTTERDAM.

Oleo oil of the value of $10,000,000 was imported into the Netherlands from the United States during the calendar year 1890. It was purchased by the makers of Dutch "margarine" (substitute butter), whose present consumption of the American oil exceeds by more than 100 per cent. the consumption of 5 years ago.

IMPORTS OF SIX YEARS.

The yearly ratio of this increase of trade is shown in official statistics of exclusively American oleo imports, as follows:

Years.	Quantity.	
	*Tierces.**	*Pounds.*
1890	259,000	93,240,000
1889	245,000	88,200,000
1888	173,000	62,280,000
1887	184,600	66,456,000
1886	121,480	43,732,800
1885	121,287	43,663,620

* The tierce averages 360 American pounds, net.

EUROPEAN SOURCES OF SUPPLY.

Other countries sending oleo oil to this foremost margarine market of the world are England, France, and Austria. These supply only 20 per cent. of the whole, however, the remaining 80 per cent. coming from the United States; and the oleo products of these European countries, in comparison with the American product, is distinctly inferior in quality and price.

PRICES DURING FIVE YEARS.

From 1886 to the close of 1890 the prices of oleo oil in the Netherlands markets tended steadily downward, the range being from 100 to 112 florins per 100 kilogrammes (18 to 21 cents per pound) in 1885–'86 down to 45 to 60 florins per 100 kilogrammes (8 to 11 cents per pound) in 1890. Within the present calendar year, and especially within the last 60 days, there has been a marked and sustained rise, owing to depleted stocks; and present quotations, which are (April 20) still advancing, are, for best grades, 55 to 72 florins per 100 kilogrammes (about 10 to 13 cents per pound).

AMERICAN EXPORT CITIES.

The chief city of export of oleo oil in the United States is Chicago. During 1890 it sent to this market quite 60,000,000 pounds, or more than one-half the total American supply. Other export cities of importance are New York, Philadelphia, Omaha, Kansas City, and Boston.

No. 129——9.

PRINCIPAL MARKET IN THE NETHERLANDS.

The trade in American oleo oil for the Netherlands centers in Rotterdam. There are in this city eight importers and fifteen brokers dealing exclusively in the product. One of the great Chicago packers has here his own representative sent from Chicago, while the others are represented by resident firms of established standing and reputation.

MARGARINE FACTORIES IN THE NETHERLANDS.

The large margarine factories in the Netherlands number 32—in Rotterdam, 5; Oss, 4; Nymwegen, 4; Bois-le-Duc, 3; Haarlem, 2; Helmond, 2; and in Dordrecht, Oosterhout, Asten, Alkmaar, Amsterdam, Waspik, Zwammerdam, Gouda, the Hague, Middelburg, Oldenzaal, and Weesp, 1 each.

These factories differ greatly in size, capacity, and value. All, however, are modern in equipment, and those more recently built represent large investments, proving the faith of their Dutch owners in the future of margarine. One plant lately erected in Rotterdam cost 500,000 guilders ($200,000) and ranked among the imposing structures of the city.

A REPRESENTATIVE FACTORY.

Possibly the most representative among margarine factories of the Netherlands is one situated at Oss, in the province of North Brabant. It is owned and operated by Anton Jurgens, whose family through four successive generations have made butter on the site of the present factory. The buildings and grounds are extensive, the machinery employed is ingenious, efficient, and costly, and from end to end the establishment is a marvel of Dutch orderliness and cleanliness.

This factory produces and ships regularly 25 tons of margarine per week. It gives steady employment to two hundred heads of families, many of whom are expert workmen. It consumes each week an average of 125,000 litres of milk, the yield of 10,500 cows owned by 2,000 small farmers living in the adjacent country districts.

The little city of Oss has 6,000 inhabitants. It has four margarine factories, but no other industry of note. Directly or indirectly its 6,000 people, as also the majority of the farmer folk for miles around, get their very comfortable living out of the margarine industry, which has become here, as elsewhere in Holland, a permanent local beneficence.

MARGARINE EXPORTS FROM THE NETHERLANDS.

The above-reported increase of oleo-oil imports into the Netherlands, more than 600 per cent. within 5 years, indicates a corresponding increase in the exports of margarine. The factories here are employed chiefly in supplying a foreign demand, the estimated home consumption of margarine being only 10 per cent. of the total output.

Statistics relating to margarine exports are, however, unobtainable. There are, so far as I am able to learn, no records of value for purposes of comparison, either public or private. Commercial statistics in the Netherlands are kept but indifferently well at best; and as to margarine, until the enforcement in January, 1890, of the national law requiring all margarine to be branded, it had uniformly been classified with other dairy products, never separately.

Experts in the trade whom I have questioned agree that the present exports are considerably more than twice as large as those of 5 years ago, and that the foreign market is steadily increasing.

The countries principally purchasing the Netherlands margarine are Great Britain, Belgium, and Germany, countries, it is significant to note, whose cities, above all other cities of Europe, teem with work people earning small wages, to whom cheap food is essential.

The glimpse thus afforded of the growth and present extent of a permanent and valuable industry of the Netherlands, which had its exceedingly unpopular beginning less than 20 years ago, suggests a glance at the cause of such growth and at the methods whereby it has been attained.

BEGINNING OF MARGARINE MANUFACTURE.

The step preliminary to the manufacture of margarine in the Netherlands was the adulteration of cream butter. In 1872–'74 the world-famed Holland dairies, in sharp competition with the butter-makers of other countries, began to employ sirup and glucose for enlarging and cheapening their product. The adulteration increased from 10 to 25 per cent., then to 50 per cent. As the proportion of new ingredients grew, the necessity for substances absolutely wholesome became imperative.

Repeated and expensive experiments under widely varying conditions proved oleo oil to be possessed of actual and high merit as a food substance, and it was a matter of course—oleo being in far larger supply than the cream of the dairy—that the animal oil should succeed speedily to the place of chief ingredient.

Thus was evolved, out of man's cupidity, a new food staple that blesses man and a new industry that profitably employs tens of thousands.

At the risk of giving what may be already familiar to some readers of this report, I now present, with rather ruthless condensation, a description of the manufacture of oleo oil and of margarine from oleo oil substantially as given by Anton Jurgens, of Oss (above referred to), in a paper read by him before the Society of Arts of Great Britain:

> Margarine, as manufactured at our factories in Holland, is composed of oleomargarine (oleo oil), milk, the purest vegetable oil that can be obtained, and real butter.
>
> #### PROCESS OF MAKING OLEO OIL.
>
> Oleomargarine, the chief constituent, is prepared as follows: From the freshly slaughtered carcasses of cattle in the abattoirs of large cities the superfluous portions of suet are taken and carted in vans specially fitted to the factories of manufacturers of repute, where the fat is

carefully sorted and the very finest element and sweetest portions selected for the manufacture of oleomargarine.

Fat forms about one-twentieth of the weight of a healthy animal. Only a small portion of this can be consumed as food in the ordinary way; the rest used to find its way to the tallow-melter. I claim it is a matter of no small importance, therefore, that we are enabled by our process to produce, at a moderate price, an abundant supply of wholesome food, and at the same time to utilize a very large proportion of a previously almost waste material.

The fat, when selected, is passed into a machine which reduces it to a pulp about the consistency of real cream. Thus brought to an even texture, the fat is now put into wooden vats and heated by steam or hot water at a moderate temperature, not too hot, because too high a degree of heat imparts to the fat a flavor of wasting and detracts seriously from its value as a substitute for butter. When melted the fat is run into jacketed vats to cool and slowly clarify. After some hours the stearine, or harder portion, begins to solidify, its whiteness contrasting conspicuously with the bright yellow of the oleo. When the material has acquired sufficient consistency, it is wrapped, in small quantities, in clean white cloths and subjected to hydraulic pressure of about 100 tons, in order that as much as possible of the oleo may be extracted. The stearine still finds its way to the tallow-melter, but the pure oleo is destined to a better application.

CONVERTING OLEO OIL INTO MARGARINE.

This oleo oil and a proportion of butter, milk, and of the finest and sweetest vegetable oil are now churned together for some time, after which the churned mixture is cooled by coming into contact with ice-cold water, and is then pressed between large fluted rollers, during which process a due proportion of salt is incorporated. It is delivered by these rollers upon large tables on rollers, which pass it on to the packers.

The oleo oil treated in the manner here described differs very little from the fat which forms the cream in milk from which butter is churned, except that in the case of oleo oil the fat is taken direct from the animal, the stearine being extracted by pressure, while in the case of natural butter the fat is converted by the action of the mammary tissues of the cow into cream, which, being churned, the fatty matter is recovered in the form of butter.

CONCLUSION.

In closing this report, I want to state three conclusions which, through the development of this "substitute-butter" industry, have been arrived at by different classes of people in the Netherlands. Perhaps they may be found not wholly lacking in significance for the people of the United States.

The first is a conclusion reached by the lawmakers. Substitute butter from oleo oil, manufactured by approved methods, is a food article of demonstrated merit, and has come to stay, so far at least as European countries are concerned. It can not be legislated out of existence. By legislation its production can not even be greatly restricted. Attempts in that direction avail nothing on behalf of the farmer and directly injure the armies of wage earners in cities, who need cheap, wholesome food. Legislation can compel the margarine to be branded and sold for what it really is, thus benefiting the honest manufacturer not less than the consumer, but at that point legislation in the Netherlands has been wisely content to stop.*

The second conclusion is one that has been reached by the farmers. Farmers in the Netherlands who own cows and have hitherto made butter have been forced to admit, as a result of experience, that the manufacture or sale of substitute butter, though ever so extensive, does not appreciably injure farm profits. If one be a large farmer with good dairy facilities and able to produce gilt-edge dairy butter, he finds now a more exclusive market and better prices than in the days when every owner of a cow made butter. If, however, one lack facilities for the best butter-making, and if one be owner of few cows, he is able to command at the margarine factory an established, all-the-year-round price for his milk that yields larger net profit than did the erstwhile sale of his indifferent butter. Large dealers, also, who formerly conducted trade in butter, find the present business in margarine no less profitable.

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*The law of the Netherlands permits oleo oil (the raw material) to enter duty free, thus giving to the margarine industry a positive encouragement.

The third conclusion here set down is a conclusion arrived at by the people who buy butter or its substitute. Consciously or ignorantly, in European countries, and, I think, also in the United States, a very large percentage of the less well-to-do people must eat substitute butter. I have official statistics before me as I write which show, after a trifle of computation, that if all the milk of all the cows in Great Britain were devoted to butter-making, the utmost possible average product of a year would be just 4 ounces per week per head of population. The European work people conclude, thus, that it is for them, to a very considerable extent, a matter of substitute butter or no butter food whatever. They conclude, also, as the fast-increasing sales of margarine abundantly prove, that the cleanly, healthful, nutritious substitute made by known and reputable manufacturers is far preferable to doubtful butter of unknown composition and origin. Now let it be added that the best margarine costs at retail but a little more than one-half as much as real butter,* and the statement with which I close this report should seem superfluous, to wit, that the old-time obstinate prejudice against substitute butter has virtually disappeared from European cities.

WALTER E. GARDNER,
Consul.

UNITED STATES CONSULATE,
Rotterdam, April 20, 1891.

AMERICAN OLEO OIL IN THE NETHERLANDS.

SUPPLEMENTARY REPORT BY CONSUL GARDNER, OF ROTTERDAM.

Supplementing a report on American oleo oil in the Netherlands, sent from the Rotterdam consulate in April, the following expert estimates, until now unobtainable, are submitted:

In the calendar year 1885 the estimated total output of Netherlands margarine (the finished butter product) was 92,400,000 American pounds; in the calendar year 1890 the estimated total was 165,000,000 pounds, an increase in the annual output within 5 years of 72,600,000 pounds. Of the above-given total product for the year 1890, it is estimated that 127,600,000 pounds were exported, while only 37,400,000 pounds went into home consumption.

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*The present retail selling price of the best dairy butter in Rotterdam is 36 American cents per American pound; of the best margarine, 20 cents per pound.

The foreign countries to which the Netherlands margarine is at present exported are, in the order of their importance as margarine-buyers, England, Belgium, France, Spain, Portugal, Sweden, Norway, Denmark, the Transvaal, and the Dutch, English, and Portuguese colonial possessions.

At the present time seven-tenths of all the oleo oil (the raw material) used in the manufacture of margarine in the Netherlands comes from the United States.

WALTER E. GARDNER,
Consul.

UNITED STATES CONSULATE,
Rotterdam, May 23, 1891.

AMERICAN DRIED APPLES IN GERMANY.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to invite attention to the inclosed translation of a clipping from the Berlin press relative to the action of the sanitary authorities in the case of American dried apples.

It will be seen by reference thereto that the presence of the most insignificant quantity of zinc in American dried apples is sufficient to characterize such food product as "ruined" in the sense of the food laws of Germany. It will also be seen that this decision was reached notwithstanding the declaration of the official expert, Dr. Dissenhoff, to the effect that there could be no chance of the healthfulness of the apples being impaired by the presence of the trivial quantity of zinc which he found.

The attention of those interested in the exportation of this important article should, in my opinion, be called to the requirements of the sanitary laws of Germany, in order that they may change their method of drying the apples.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, April 17, 1891.

[Inclosure in Consul-General Edwards's report.—Translation.]

Dried apples imported from America, which have become a very popular article of trade, have been unable to stand the test before the German sanitary police and have frequently caused the prosecution of those who have sold them. This also happened to Merchant Warnatz, who yesterday stood before department No. 93 of the court charged with a breach of the articles-of-food law. He had, he claimed, by mistake sold American dried apples, in spite of the fact that he had been informed by the police that his supply contained zinc, and consequently must not be offered for sale.

The expert, Dr. Bischoff, testified that the police authorities of Hamburg and Kiel were first to call attention to the fact that these wares contain zinc. Dr. Bischoff attributed the presence of this undesirable ingredient to the fact that in America the sliced apples are dried upon zinced wire grates, in which way the acid of the apple comes into contact with the zinc. This, however, has a very trivial result—in 100 grammes of apples he found 12 centigrammes of zinc salt—and he testified that there can be no chance of the healthfulness of the apples being thus impaired.

The presence of this foreign material, however, is sufficient to characterize the wares as "ruined" in the sense of the law.

The court recognized only carelessness in this case, and imposed a fine of 10 marks.

SHIPBUILDING TRADES OF THE UNITED KINGDOM.

REPORT BY CONSUL SHERMAN, OF LIVERPOOL.

I inclose herewith, from the annual report for 1890 of the United Society of Boiler-makers and Iron-Ship Builders of the United Kingdom, figures showing the production of shipping during the last 10 years, some interesting information concerning the affairs of the society, and the rules of the recently organized Federation of Engineering and Shipbuilding Trades of the United Kingdom.

THOMAS H. SHERMAN,
Consul.

UNITED STATES CONSULATE,
Liverpool, April 16, 1891.

EXTRACTS FROM THE FIFTY-SIXTH ANNUAL REPORT FOR 1890 OF THE UNITED SOCIETY OF BOILER-MAKERS AND IRON-SHIP BUILDERS OF THE UNITED KINGDOM.

[Inclosure 1 in Consul Sherman's report.]

The year will long be remembered in the annals of the shipbuilding industry as a most satisfactory year for the large amount of tonnage completed, also for the peace and harmony that has prevailed between employers and ourselves. The output of shipping is not so great as the previous year. The vessels launched during 1889 reached the enormous amount of 1,332,889 tons, while 1890 is only slightly below that year, the output for the whole of the United Kingdom being 1,242,124 tons, or 53,812 tons less than the best year on record. It is, however, a larger tonnage than any year during the preceding decade; it is higher, even, than the exceedingly busy year 1883. For comparison, we produce the output for the last 10 years, viz:

Table showing the rise and fall in shipbuilding for the last 10 years.

Year.	Total production.	Year.	Total production.
	Tons.		*Tons.*
1881	1,000,000	1886	473,675
1882	1,200,000	1887	578,668
1883	1,250,000	1888	903,687
1884	750,000	1889	1,332,889
1885	540,422	1890	1,279,077

To show how the trade has been allocated to the various shipbuilding centers, we append a return of the total tonnage completed during the past year in the different shipbuilding rivers, viz:

Summary of vessels built during 1890.

Yards.	Tons.	Yards.	Tons.
Northeastern ports	676,137	Grangemouth	18,362
Clyde	349,945	Aberdeen	9,228
Belfast	66,361	Londonderry	10,593
Mersey	27,763	Miscellaneous ports	22,068
Barrow-in-Furness	24,665		
Humber	9,624	Total	1,242,124
Dundee	24,494	Continental yards	36,953
Whitehaven and Workington	2,884	Grand total	1,279,077

Broadly put, the northeastern ports show a decrease, the Clyde an increase, whilst the subsidiary building centers have either a small decrease or are stationary generally.

There may be a time of depression in store for us, but it is an encouragement to know that the work now on hand will last for several months. This is clearly demonstrated by Lloyd's Register shipbuilding returns for the quarter ended the 31st of December last. According to these returns, there were building at the close of the year in British shipyards a total of 471 vessels, representing 734,010 tons. This quantity falls short of the tonnage on the stocks at the close of 1889 by over 138,000 tons, or 16 per cent., but it is greater than that building at the close of the previous quarter (September 30) by 81,000 tons. In addition to these 734,000 tons in course of construction, there were, at the close of the year, 178 vessels of 293,288 tons, for the commencement of which preparations were being made. The latter is all prospective work, practically not yet begun, and, even if no further orders are received, the vessels now building and those about to be built are sufficient in number to keep the trade fairly well employed for quite 6 months to come.

In the table of ships building at foreign ports, which Lloyd's now include in their return, the only countries building anything like an appreciable quantity of tonnage are Germany, Holland, Italy, and the United States. The total tonnage credited to Germany is 49,900 tons; to Holland, 23,000 tons; to Italy, 23,900 tons; and to the United States, 32,300 tons; compared with the British total of 734,000 tons.

During the past year steps have been taken to restrict overtime in our various yards and shops, and we have succeeded in accomplishing this without causing any friction with our employers, as they see as well as we do that overtime is not a benefit to them any more than it is to us when it can be avoided. Systematic overtime is unnatural and injurious to even the healthiest and strongest workman. It impairs his health, destroys his energies, his physical powers decay, until ill health fastens upon him, the result being often premature death and an early grave, leaving his helpless widow and innocent orphans to struggle with the hardships that are inevitably in store for them in the best manner they can; whereas the workman who works only for a reasonable number of hours during the day comes to his labor in the morning fresh and strong, his energies recuperated by a night's refreshing sleep, his intellect clear, his mind active, his muscles hard and strong as iron bands, fit to tackle any amount of work. It is thus easy to perceive that overtime is expensive to the employers, it does not expedite the work, and is demoralizing and injurious to the workmen.

The year 1890 has been a very peaceful one with us; in fact, we have not had any disputes of any magnitude. New demands upon our employers have been of a trivial character and very few. No general advance has been solicited during the past year, and work has been steady, continuous, and profitable to our members.

When we take into account the fact that fully 90 per cent. of our members are always engaged on piecework, and that there are continual changes going on which necessitate readjustments of prices and cause stoppages of work—these are all classed as disputes, and the members who lose time through them receive dispute benefits from the society's funds, and a very accurate account is kept by us of such expenditure and shown in this and in our annual and quarterly reports—the wonder is that the amount so spent is not larger. The disputes before mentioned are really not ruptures between ourselves and our employers, but simply the expenditure caused by the delay in getting the prices for doing the work settled upon.

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FINANCE.

Turning now to the society's present position, and comparing it with the close of 1889, we find that at that date we had 227 branches; we now have 238, being an increase of 11. Our number of members at the end of 1889 was 33,441; the number now reaches 35,860. We have thus added 2,419 to our muster roll during the year.

Our young men should realize the fact that our fathers fought and struggled against great odds and under most adverse conditions to make and perpetuate the noble institution which to-day we reap the benefit of. Such being the fact, it should be a point of honor on their part to steadfastly uphold the society to which they owe nearly all the advantages they now possess in the shape of fair wages, the 9 hours for a day's work, and the Saturday half-holiday. We can only hope to retain these privileges and still make further progress by adhering to our union principles in the future.

Our total income for last year is the largest ever reached, namely, £119,646 4*s.* 6½*d.*, being an increase on the previous year of £15,123 6*s.* 10½*d.* The amount received as income, with the balance in hand at the end of 1889, brings the total up to £220,542 10*s.* 2*d.*, and our expenditure has been £71,688 18*s.* 0½*d.*, leaving a balance in hand at the end of the year of £148,853 12*s.* 1½*d.* To show the great progress we have made during 3 years, I may mention that at the close of 1887 we numbered 24,860 members and had a balance in hand at that date of £25,001 5*s.* 2*d.* Compare these figures with those above given; they show that we have increased our members by 11,000 and our funds by £123,852 7*s.*

Our great source of income is from contributions, and we have received under this heading during the year no less a sum than £94,546 7*s.* 3*d.*, being £6,222 8*d.* in excess of the previous year.

The 10*s.* per member extra levy which you so unanimously consented to pay during the year has produced £13,767 15*s.* 6*d.* This shows your great attachment to the society and speaks volumes for your faithfulness.

* * * * * * *

In turning to the expenditure side of the accounts we find them equally satisfactory. Payments to our sick members during the year amount to £18,342 14*s.* 4*d.* This is in excess of the previous year by £3,245 8*s.* 2*d.* The epidemic of influenza, which visited the United Kingdom the early part of last year, is somewhat responsible for this, as our February report shows that during 1 month the number of members on our sick fund went up from 870 to 1,336.

We have paid the sum of £11,344 6*s.* 2*d.* as out-of-work benefit. This is an increase of £7,857 14*s.* 5*d.* compared with the previous year, and at once proves that the pressure of work has not been so great.

Our benevolent fund has rendered help to those who have needed it to the amount of £2,711 1*s.* We had a balance of £118 12*s.* 8*d.* in favor of this fund at the end of last year, and the income during 1890 is £2,363 13*s.*, making a total of £2,482 5*s.* 8*d.* There was therefore a deficiency at the end of the year of £228 15*s.* 4*d.* Our benevolent fund is intended to render special assistance to widows and orphans and to give relief to members in circumstances of exceptional distress. These grants are made in addition to the ordinary benefits. As a rule, the fund can not be said to be imposed upon, each application being minutely inquired into, and applications seldom being made without good cause.

There have been several aged members put on the superannuation fund during the year, and several have reached their journey's end and therefore require no further benefits, thus leaving the number on the fund very much the same as the previous year. Amount paid for this benefit during 1889, £5,017 15*s.*; and during 1890, £5,082.

Funeral benefit has called for a larger sum, and rose to £4,609, or £616 more than the previous year.

The amount spent in disputes is small, namely, £1,265 16*s.* 6*d.*, being a fraction more than 1 per cent. of our income. Strikes are a most unsatisfactory method for adjusting labor disputes.

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We have added £10,000 to our reserve fund since the commencement of the present year, bringing the total up to £51,000, and I hope it may never be less.

During the year under review we have been able to bring about a federation of the engineering and shipbuilding trades of the United Kingdom. This federation is composed of 13 societies at the present time, and others are making application to join. We hope this closer tie of the different societies will give us a power and influence we did not previously possess. The object of the federation is not of an aggressive nature, but for defensive purposes, and the protection of rights already acquired, and to promote arbitration or conciliation in trade disputes, and the elevation of labor generally.

Another subject of great importance, and one that our members should not lose sight of, is the necessity there is for the individual member to take an active interest in the everyday work of his own branch. Many men run away with the idea that they have simply to pay their contributions, and that completes the obligations resting upon them as members. Now, this is a great mistake, and is a source of much evil to our well-being. The business of the branch is often left in the hands of a few members, the consequence being that things frequently go wrong through the apathy of the bulk of the members. Many a good officer and well-intentioned man has fallen into error from this evil. The object desired is that every member should take a lively interest in seeing the rules strictly carried out. Do not be afraid to speak if you see any irregularities existing, but always act at the right time and speak in the right manner, should you be certain the rules are evaded. The main thing to do is to elect the best men you can find as your officers; having done so, then support them to the full extent of your power by attending the meetings; give them all the sympathy and help you possibly can, and, when it is found that they are doing all that is possible to further the interests of the society, give them every encouragement by showing that you appreciate their efforts. The work of our branch officers is very arduous and very heavy in large branches; those only who have been through the position can understand its nature, especially the secretaries. It takes nearly all their spare time to keep things straight; they are frequently compelled to work when others are asleep or enjoying themselves, free from all care. Officers who conscientiously do their work are worthy of the greatest respect and deserve the fullest support that can be extended to them; instead of the same being accorded to them, very often abuse and ill treatment are the wages they receive, although we have reason to believe that this is the exception and not the rule.

What we want in our society, and the world wants, is the best men to lead it forward. Ours is not a machine-made society, in which one man is as good as another, and no man is better than another; this is unnatural and impossible. We, as a society, have done much to remove all restrictions, so that everyone may have a fair start and the opportunity to show what he is made of. At present every man has not this opportunity. How can the docker, whose whole energy of thought is concentrated on the problem whether he shall get a meal to-day, or the sweater, who is kept stitching at shoddy coats for 16 hours a day? But we do look forward to the good time coming when

Man to man the whole world o'er,
Shall brithers be and a' that—

when the poorest and meanest shall be given the power, if he has the will, to elevate himself; in that time we shall have social justice, but we shall not have equality. The man of brains, of industry, of self-denial, will rise to the highest ranks in the social hierarchy; the man whose thoughts are wholly absorbed on the half crown he has got on the next horse race, whose ideal of enjoyment does not rise higher than the bar counter, who is always late at his work and indulges in frequent days off, will sink to the bottom and consider himself a social martyr. He will not receive nor deserve pity, but we must never confuse with him the man and the woman who have the will, if they were only given the opportunity, to raise themselves.

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RULES OF THE FEDERATION OF ENGINEERING AND SHIPBUILDING TRADES OF THE UNITED KINGDOM.*

[Inclosure 2 in Consul Sherman's report.]

OBJECT OF FEDERATION.

The object of the federation shall be to maintain the right of combination of labor by trades-unionism, by mutually supporting any of the societies within the federation if individually attacked by employers or bodies of employers, to use every legitimate means to abolish the character note system, to promote arbitration or conciliation in trade disputes, and the elevation of labor in general.

PROCEDURE.

That the federation be of a mutual character, and no financial responsibilities attach to any society other than the claims of its own members or the limited expenses for working the federation.

If a dispute takes place between any society connected with this federation and their employer or employers, the other societies connected not to interfere, unless nonsociety men are brought in to take the places of the men in dispute or other unfair means used to crush the society affected. In such cases the matter shall at first be submitted to the executive council of this federation by the executive of the society whose members are on dispute. The federation council shall do their utmost to effect a settlement, and, if they fail, they shall, if necessary, submit the whole question to a conference of the representatives from the societies forming the federation, who shall have the power to take what steps they may think best in the matter, the conference not to be called together to consider any dispute unless requested by the executive of the society or societies affected.

Whenever any dispute exists between an employer or employers and any society belonging to this federation, no member or members composing the societies forming this federation shall do any work of the men on dispute.

If any dispute takes place between any of the societies forming this federation, unless amicably settled, such dispute shall be referred to a court of arbitration selected by the parties affected by the dispute. When a court of arbitration is required, each party to the dispute shall appoint one or two arbitrators, the two or four arbitrators to appoint an umpire, all of whom must be trades-unionists; failing the arbitrators to agree, his decision shall be final and binding; court, when formed, to decide as to place of meeting, method of procedure etc.; each party to pay half of the expenses, unless otherwise ordered by the court.

GENERAL MEETINGS.

A general meeting of representatives shall be called at any time on a requisition being made by the executives of any four societies connected with the federation, such requisition to be sent to the secretary in writing, and the reasons set forth as to the need of such a meeting being held.

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[*] Composed of the following societies: Boiler-makers and Iron-Ship Builders; Steam-engine Makers; Iron Founders of England, Ireland, and Wales; Associated Molders of Scotland, Associated Blacksmiths; Co-operative Smiths, Newcastle; General Union of Carpenters and Joiners, Associated Shipwrights; Metal Planers, Slotters, and Borers; United Machine Workers, United Pattern-makers, National United Trade Society of Engineers, and United Operative Plumbers of Great Britain and Ireland.

The representatives to general meetings shall be not more than two from each society, and the subscriptions shall be £3 from each society, to meet the expenses that may arise previous to the annual meeting in May next. Future subscriptions shall be decided at annual meetings hereafter.

Any society can withdraw from this federation by giving 6 months' notice, in writing, to the secretary of the federation.

OFFICERS.

The officers of the federation shall be a chairman, vice chairman, treasurer, and secretary, who, with one representative from each of the remaining societies, shall form an executive council, all to be elected at the annual meeting in May each year.

The officers of the federation shall be elected at this conference, and in future at the annual meeting to be held in the month of May each year on such date as arranged by the executive council, the first annual meeting to be held in Manchester and future places of meeting to be decided upon hereafter.

EXECUTIVE MEETINGS.

The chairman and secretary shall have power to call a meeting of the executive council whenever they may deem it needful, such meeting to be held in any town or place that they may consider suitable. Such meeting of executive shall use their judgment as to the need of calling a general meeting of representatives and lay before them their opinions or recommendations.

These rules may be altered, amended, or added to by a majority of votes at an annual meeting of representatives. Any society or societies whose executives may have any suggested alterations or amendments to make shall give 3 months' notice, in writing, to the secretary, and a copy of the same shall be appended to the notice paper calling the annual meeting.

THE WORKMEN'S COMMITTEE.

REPORT BY CONSUL HAWES, OF REICHENBERG.

In these days of industrial disturbances, be the cause whatever it may, it is well worth while to study any institution having for its object the settlement of differences between employer and employé peacefully and with the least possible interference of business.

I therefore feel justified in calling attention to an industrial institution which has of late years largely awakened the interest of German economists, namely, the Workmen's Committee. This has developed here and there spontaneously, but has already rendered excellent service in encouraging and securing peace. It is more than an auxiliary institution of the employer, for, while called into being by the interests of the workman, its statutes yet deal more with his duties than with his rights.

Where a factory and industrial *Krankenkasse*, or sick fund, existed—and their number in 1886 was not less than 5,615 in large establishments in Germany—the law of June 15, 1883, provided for a board of directors drawn from the workmen, which constituted a confidential committee between the employer and employé, where, in addition to the sick fund, special encouragement or loan funds existed; where savings and premium banks, mutual beneficial associations, or other eleemosynary institutions, such as bath or soup houses, were to be found, it was desirable to have a committee of workmen in the management of such institutions.

With such motives manufacturers in Germany for 25 years have created such bodies as "Factory Counselors," "Oldest Colleagues," "Workman's Committees," etc., as a medium between employer and employé. Members were elected by their comrades, and the fact that he also had some interest in the undertaking soon rendered the employer an earnest worker.

In the iron works at Marienwerder, near Kotzenau, where such a committee has existed since 1872, the director at first had on the committee only such workmen as shared his confidence. At a new election, however, the opposition conquered, and shortly the director found himself working with the new members quite as amicably as with the old.

This representation of workmen in the business is the best means of interesting them in such business and of developing a feeling of participation therein, as well as of modifying an opposition of interests.

Such committees soon exercised the functions of disciplinary authorities, being confidential mediums between both parties, and, being composed of foremen or inspectors, were well adapted to pronounce upon technical matters. They even developed themselves in a high degree as authorities on morals.

The director of the large Isenburg-Wāchtersbach crockery factory at Schlierbach (Cassel) wrote, in 1889:

> I have transferred all important disciplinary cases to the Oldest Colleagues. The mutual spirit, as well as honor, of the trade will thereby be visibly developed. Faults are generally more severely punished by this committee than would have been the case had I inflicted the penalty.

This institution extends even to the private life of the working people; it develops the ambition and honor of all the employés. Drunkenness, carelessness, concubinage, quarrelsomeness, as well as wasting of money, are treated by warning and punishment; it excludes those who do not improve or who relapse into bad behavior; it controls the visiting of restaurants by young people, etc.; it discusses with parents the best way of saving money, and even can compel young men to save; it also discusses matters as to residences, etc.

The development of such committees has been due to various practical causes. This development and the acquisition of their higher functions has been so gradual as scarcely to be perceptible.

Committees of workmen were created during the great riots of 1889 and 1890 for the purpose of avoiding quarrels.

Professor Sering, of Berlin, who, as well as Oechehauser, Boehnert, Hitze, and Schmoller, took the part of these bodies, divides such committees in parties and sees whether they are competent to work as mediums between the laborers and the manufacturer, at the same time being the administrators of the eleemosynary institutions or the deciding and executing authorities of administration.

A Belgian manufacturer wrote to the Society of Social Politics as follows:

> By listening to the free and uncontrolled conversation and change of opinion of our workmen in our Workmen's Casino I have often obtained good ideas; I have developed a mutual confidence and a feeling of mutual interest, and I think that such a businesslike but friendly tone between employer and employé is just as important as, and, perhaps, for the development of social peace, more useful than, the local or district workmen's committee, where it is an easy thing for the agitators to get the best of the working people and to create discord.

The committee receives complaints, wishes, opinions, and new ideas concerning work; on the other hand, it explains the views and reasons of the employer and seeks to create an understanding between both parties by public speeches and answers.

The managers and the working people are brought closer together by regular discussion and the expression of various opinions. Employers who have created such committees say that many good things for the benefit of the factory have been suggested and furthered by the active help of working people, and that the work of such people, who are pleased to see that their judgment and help will be considered, is, in large establishments, far more satisfactory and agreeable.

It is well to compare especially the report of Director Berding, of the mechanical weaving establishment at Singen, of which Sering remarks that the constitution of a large establishment where such committees exist can not be understood by those who consider the establishment only in its business relation between capitalist and laborer. This relates more to the second kind of committee, which also inspects the eleemosynary institutions of the undertaking. The success in this regard has been excellent. Mr. Berding remarks:

> It is obvious to everybody who has the opportunity to look closer into the life of the working people that they appreciate and prefer any institution which they know has been created by their aid and where their ideas have been considered than when such an institution is dictated to them.

Therefore, where the elected committee of workmen is not only connected with the administration of the charitable institutions, but also with the establishment itself, the most pleasant results are to be seen.

The committees have, under the most different economical and social conditions, allayed quarrels and hate and caused mutual understanding and peaceful work between employer and employé, without weakening the technical and economical competency of the undertaking, but, on the contrary, strengthening it.

The technical management of the production and the commercial management of purchases and sales are, of course, decided by the proprietor, but all orders concerning the work and its execution are left to the committee. Questions of wages and length of working time are rarely discussed in these committees.

In Switzerland, Holland, and France are a few such bodies, which have also examples in Austria. In the factory of Ringhoffer, at Prague, the system is highly developed; it is also working in the Semmering Machine and Wagon Factory, in the factories at Ellisen, in the establishment of Roeder & Co., in Theresienthal, Ulmersdorf, and other places.

JNO. B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, April 24, 1891.

THE ZONE FREIGHT SYSTEM.

REPORT BY CONSUL HAWES, OF REICHENBERG.

The success of the so-called zone system for passenger traffic on railways has been practically demonstrated in spite of the arguments of the theoretic economists proving that it was impossible. It was Hungary, I believe, which thus set figures at defiance and showed that the old adage was not always true, and that figures do sometimes lie.

It is now proposed to extend the same system to freights upon the Austrian Government railways, and the general manager of the Austrian Government railways publishes the following explanation of the system which has been adopted after long and thorough conferences between the minister of commerce and the treasury.

The sketch of the tariff which awaits the approval of the board of railways, as well as the ministry of commerce, is as follows:

The tariff is based on a division of the country into zones of 10 kilometres in width, and the rate of freight to the center of a given zone is that of the whole zone, *i. e.*, it costs no more to ship goods to the further border of such a zone than to the middle of it. Rates are fixed by tables for from 1 to 50 kilometres, from 51 to 150 kilometres, from 151 to 300 kilometres, and for more than 300 kilometres.

The present system of classifying the value of the goods, which is the same for Austrian as for Hungarian railways, will in general be continued; but certain important modifications will be made.

The tariff for express goods per 100 kilogrammes is as follows:

Distance.	Ordinary.			Reduced.		
	Under 5,000 kilos.	5,000 kilos.	10,000 kilos.	Under 5,000 kilos.	5,000 kilos.	10,000 kilos.
	Kreutzers.	*Kreutzers.*	*Kreutzers.*	*Kreutzers.*	*Kreutzers.*	*Kreutzers.*
1 to 50 kilometres	1.20	0.90	0.80	0.60	0.50	0.45
51 to 150 kilometres	1.16	.80	.70	.58	.46	.40
151 to 300 kilometres	1.12	.70	.60	.56	.42	.35
Over 300 kilometres	1.00	.52	.46	.50	.30	.26

The present tariff for express goods is divided as follows:

(1) General, 1.60 kreutzers per 100 kilogrammes for 1 kilometre.

(2) Reduced and especially reduced, 0.59 kreutzers per 100 kilogrammes for 1 kilometre.

The new tariff is divided as follows: Under 5,000, over 5,000, and over 10,000 kilogrammes, and contains six divisions. In other words, the arrangement for half and whole carloads has been provided, also, for express goods. The single express package will also be carried much cheaper than before. With ordinary express goods the highest tariff of the future will be 1.20 kreutzers for the given quantity. The lowest tariff, however, falls to 0.46 kreutzer; but will be somewhat dearer, it is true, as not each kilometre, but the distance to the middle of the zone, is taken into consideration. With reduced express goods the tariff falls to 0.26 kreutzer.

The following table compares the present rates per 100 kilogrammes for express goods with those of the future:

Distance.	General.				Reduced.			
	Present tariff.	Future tariff.	Half car.	Whole car.	Present tariff.	Future tariff.	Half car.	Whole car.
	Kr.	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*
5 kilometres	23	16	14	12	9	8	7	7
15 kilometres	34	24	20	18	13	12	11	10
25 kilometres	50	36	28	26	19	18	16	14
45 kilometres	82	60	52	42	31	30	26	23
55 kilometres	98	72	56	50	37	36	30	28
75 kilometres	130	96	72	64	48	48	40	36
95 kilometres	162	120	90	80	60	60	50	45
125 kilometres	210	156	114	100	78	78	64	57
155 kilometres	258	190	136	122	96	95	77	68
175 kilometres	290	212	150	134	107	106	86	75
225 kilometres	370	268	186	164	137	134	107	93
275 kilometres	450	324	220	194	166	162	128	110
325 kilometres	530	378	252	220	196	189	146	126
375 kilometres	610	428	278	242	225	214	161	139
425 kilometres	690	478	304	266	255	239	176	152
475 kilometres	770	528	330	288	284	264	191	165
625 kilometres	1,010	678	408	358	373	339	236	204
725 kilometres	1,170	778	460	404	432	389	266	230
825 kilometres	1,330	878	512	450	491	439	296	256
925 kilometres	1,490	978	564	496	550	489	326	282
1,025 kilometres	1,650	1,078	608	542	609	539	356	308

For ordinary express freight, whether in single parcels or carloads, the rates will be reduced between 30 and 60 per cent. For reduced express goods it costs at present to send 100 kilogrammes from Vienna to Braunau 2.25 florins, while in future it will cost for a single parcel 2.14 florins, or for a carload 1.61 and 1.39 florins, per 100 kilometres. Here the reduction is less than for ordinary express goods.

The chief difficulty of the reform lies in the "ordinary" express, wherein the introduction of carloads for transportation of goods into the great towns will be particularly favored.

The tariff for freight goods per 100 kilogrammes for 1 kilometre is as follows:

Distance.	Single pieces.				Carloads.		
	Class I.	Class II.	Exceptional, IV.		5,000 kilos., A.	10,000 kilos.	
			5,000 kilos.	10,000 kilos.		B.	C.
	Kr.	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*
1 to 50 kilometers	0.60	0.50	0.45	0.40	0.34	0.24	0.18
51 to 150 kilometres	.58	.46	.40	.35	.29	.22	.15
151 to 300 kilometres	.56	.42	.35	.30	.25	.18	.12
More than 300 kilometres	.50	.30	.26	.23	.20	.12	.10

The most important change which is seen here is the creation of an exceptional class for piece freight of 5,000 and 10,000 kilogrammes. With piece freights, as with express goods, the rates are divided into carloads and half loads. For carloads the rates are especially low, often less than half the rates for single piece freights.

This tariff is intended to greatly encourage trade between great cities, as only in large towns are goods collected. Less important are the reductions in classes A, B, and C.

In the tariff for staple articles are new exceptional rates for cumbersome goods which deal with the space occupied, and is reckoned upon the number of square metres of floor occupied.

Special and exceptional tariff.

Distance.	Carloads.						
	Special tariff.				Exceptional tariff.		
	1.	2.	3 (exceptional tariff).		*a.*	*b.*	*c.*
			I.*	II.	Class special tariff.*		
					B.	C.	3.
	Kr.	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*	*Kr.*
1 to 50 kilometres	0.26	0.18	0.15	0.12	1.30	1.00	0.80
51 to 150 kilometres	.23	.15	.13	.10	1.20	.80	.70
151 to 300 kilometres	.19	.12	.10	.09	1.00	.70	.55
More than 300 kilometres	.15	.10	.08	.08	.65	.55	.45

* Per square metre of surface occupied.

The coal tariff is included in the exceptional tariff 1. The previous exceptional tariff had the rates 0.22, 0.14, 0.12, and 0.08 kreutzer per 100 kilogrammes for 1 kilometre. Here, therefore, is no special reduction.

The exceptional tariff II is, however, lower, and, what is quite new, will include every article which, on account of its little value or for other reasons, can only pay low freight, as lignite coal, building materials, ice and snow, sugar-beet refuse, etc.

Fees for handling freight will, in future, be reckoned as follows: For transportation from 1 to 30 kilometres in class I and II; further, the delivery of piece freights in whole or half carloads (exceptional tariff IV), as well as in carloads, class A, 3 kreutzers. Exactly the same amount for the same item of the tariff must be paid for transportation up to 80 kilometres, and over 80 kilometres the fee for handling amounts to 4 kreutzers. The unit in every case is 100 kilogrammes.

Under the same conditions car classes B and C, and by special tariff 1, 2, and 3, must pay 2, 3, and 4 kreutzers per 100 kilogrammes, and, by the exceptional tariff II, 2 kreutzers, without regard to the distance.

JNO. B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, April 11, 1891.

DUTY REDUCTIONS IN DENMARK.

REPORT BY CONSUL-GENERAL CARR, OF COPENHAGEN.

In consequence of the system of raising revenue by a tax on the manufacture of beer, there was an act passed at the late session of the Rigsdag reducing the duties on the importation of sugar, chocolate, and petroleum, the reductions to take effect on the 1st of October, 1891, when the beer tax law goes into effect.

The duties on sugar, heretofore—according to the quality—4⅔, 8½, 9¼, and 13½ öre per pound, are reduced to 1, 2, 3, and 6 öre per pound.

The duties on chocolate, heretofore 14½ öre per pound, are reduced to 10½ öre per pound.

The duties on petroleum, heretofore 4 öre per pound, are reduced to 2 öre per pound.

The tax on the domestic manufacture of beet-root sugar, heretofore 8½ öre per pound, is reduced to 2¼ öre per pound.

A bounty to the amount of the duties on the importation of sugar used in their manufacture is to be paid on conserves made in, and exported from, Denmark.

CLARK E. CARR,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Copenhagen, April 5, 1891.

THE SILK INDUSTRY OF FRANCE.

REPORT BY CONSULAR CLERK HANSMANN, OF LYONS.

HISTORY OF THE INDUSTRY.

Although France has for nearly two centuries been the leading silk-manufacturing nation of Europe, the industry is by no means of ancient date. It can not be stated with exactness at what date silk-weaving was begun in France. Various old records show that in the twelfth and thirteenth centuries there were some weavers of ribbons and galloons in different localities, and that in the fourteenth and fifteenth centuries some few scattered looms for silk cloth and velvet were operated at Paris, Rouen, Lyons, Nîmes, and Avignon. The weavers were usually Italian refugees from Lucca and Florence, who had expatriated themselves to escape the ravages of civil war at home.

The first important steps looking to the establishment of a regular silk industry in France were taken by Louis XI, who in 1466 succeeded in inducing a number of Italian weavers to locate at Lyons; however, the bankers and importers of Italian silks at Lyons, believing the establishment of silk-weaving in their midst prejudicial to their business, manifested such hostility to the new enterprise that in 1470 the King found it expedient to remove these weavers to Tours.

It was not until the sixteenth century that silk-weaving was successfully introduced on an extended scale. At this time considerable quantities of cloth of gold, velvet, and satin were purchased from the Italian manufacturers, causing a large annual flow of money towards the Italian silk centers. It was primarily the desire of keeping this money within the Kingdom that prompted Francis I to recur to extraordinary measures for the introduction of silk-weaving in France. By an edict of December 2, 1536, he offered great inducements to silk-weavers who would settle in France, guarantying them immunity of imprisonment for debt, exemption from taxation, free lodgings, and the right to carry swords—the latter a privilege rarely granted to persons not of noble birth. These brilliant offers soon attracted considerable numbers of Italian weavers, who continued in France the weaving of those articles they had so justly made famous at Genoa, Florence, Lucca, and Venice.

Lyons was then the principal center of the trade with Italy, especially for the importation of silk goods, and on the introduction of silk-weaving in France it at once became the headquarters of the new industry. Its geographical position rendered its fairs a great rendezvous for the merchants of surrounding countries, and a law requiring every bale of raw silk entering France to pass the Lyons customs station soon made this city an important raw-silk market.

Silk-weaving was begun at Nîmes and Paris soon after it had gained a footing at Lyons, and was likewise introduced about the same time by the popes at Avignon. By the end of the sixteenth century the new industry had become so important that Colbert established special regulations governing silk-weaving in its four leading centers—Lyons, Tours, Paris, and Nîmes.

The seventeenth century was, generally speaking, one of great prosperity for the silk industry up to October 22, 1685, the date of the revocation of the edict of Nantes. This measure, which so sadly deranged French economic matters and drove over 300,000 of the most skilled and industrious French artisans out of the country, seemed for a time to have annihilated the silk industry. The number of looms in all of France was reduced from 40,000 to less than 10,000. The weavers, expelled from their own country, took refuge for the most part in England, Germany, and Switzerland and continued their industry at Macclesfield, Crefeld, Elberfeld, Zurich, and other places. England and Germany, from being among the best customers of France, thus suddenly became her most formidable competitors.

The silk industry was, however, too firmly established in France to be uprooted even by such a calamity as the expulsion of Protestant weavers. After 15 or 20 years of complete depression, a reaction began to set in, and lost ground was soon recovered. Favored by various circumstances, the French silk industry now began to take the lead, gradually eclipsing even Italy and attaining to that predominant position in the markets of the world which it has ever since maintained.

Being founded by Italian weavers, it is not surprising that the French silk industry should have confined itself at first to making the rich Italian articles, such as damask of Venice and Lucca, brocaded velvets of Genoa, cloth of gold, etc. But little by little it began to emancipate itself from Italian traditions. First, lighter all-silk fabrics began to be made, then followed silk-and-wool-mixed fabrics in considerable variety. As lighter articles were produced, silks gained in favor with the middle classes, thus rendering it all the more necessary to provide articles suitable to their needs and state of life. It was by making articles suitable for the middle classes that French manufacturers succeeded in attracting the attention of foreign buyers. Greater security of roads and better means of communication also tended to divert the stream of buyers from Italy to the then renowned fairs of Paris, Lyons, Tours, and Beaucaire.

Various circumstances contributed toward making France the center of the raw-silk trade. The Cape of Good Hope route to India and eastern Asia superseded, to a great degree, the old overland route and Mediterranean passage. This caused the Asiatic raw-silk trade to pass from the hands of the Venetian and Genoese to those of the Dutch and English, and made of Marseilles, Amsterdam, and London the leading raw-silk marts. Italy gradually came to look to Lyons as the purchaser of its overflow of raw silk. Spain found the fairs of Beaucaire to be the best selling market for the raw silks of Valencia and Murcia. Finally silk-growing made rapid headway in France, especially in the region of the Cévennes, and French silk-raisers found Lyons a ready market for their productions.

Perhaps the most important factor in securing to the French silk industry its unrivaled prestige consists in the fact that since the middle of the seventeenth century Paris has been the center of the arts and fashions of Europe. It is to Paris that the merchants of all nations come to acquaint themselves with the new fabrics, designs, novelties, styles, and everything relating to the domain of fashions, and an article or style once fairly launched at Paris is almost certain of success the world over.

It was the eighteenth century that saw France eclipse Italy in the silk world and assume the rôle of leader. This victory was obtained after a prolonged struggle, and was the triumph of newer and brighter ideas, of greater activity and diversity, and of more perfect means of intercourse and of production. To hold this position for two centuries, in the face of the most powerful and multitudinous competitors, has required the most untiring efforts on the part of the manufacturers for the perfection of machinery and processes of production for developing the greatest degree of technical skill among the workmen, and especially for continuing to lead the world in the production of novelties, the tasteful design and faultless execution of which at once mark them as veritable works of art.

CENTERS OF THE INDUSTRY.

The geographical location of silk-weaving in France has undergone considerable changes since the introduction of the industry. Cities in which silk-weaving was formerly of great importance have turned their attention towards other industries, while new silk centers have sprung up and attained more or less prosperity.

Rouen.—In the fifteenth century Rouen contained some silk looms, but the weaving of silk has long been discontinued there. The same is true of Orleans.

Avignon.—The silk manufacture established by the popes at Avignon was for a long time in a flourishing condition, and its brocades, damasks, and brocatelles were admired and sought for far and wide. In 1715 the height of prosperity was reached with 5,000 looms in operation and a total production valued at 15,000,000 francs. When the popes lost control of Avignon the city began to decline; its weavers emigrated, some to Nîmes, some to Lyons. At present only a few looms are to be found at Avignon, and these are generally engaged on plain, cheap goods for the account of Lyons houses.

Tours.—Tours was the first great silk-weaving center of France. Under the direction of the Italian weavers introduced by Louis XI in 1470 a considerable degree of prosperity was soon attained. Before the revocation of the edict of Nantes the number of looms in operation had reached 8,000. This prosperous industry was completely destroyed by the fatal measure. During the latter part of the eighteenth century Tours revived to a certain extent, and the number of looms once more reached 2,000. Since 60 years ago the Tours silk industry has been going backwards again, and at present employs but 1,000 looms with an annual production of perhaps 6,000,000 francs.

Nîmes.—This city was likewise one of the early centers of silk-weaving. It was the home of a large number of Italian refugees and suffered much less than the other silk centers from the expulsion of Protestant weavers. The eighteenth century was one of great prosperity for Nîmes, the number of looms reaching 3,000 for broad goods and 8,000 for silk knit goods. The present century brought with it a lessened demand for Nîmes knit goods, and even the broad goods industry saw its trading territory gradually narrowed down to the immediate vicinity. The number of looms at Nîmes and in the Gard department is now estimated at 1,500.

Paris.—Ever since the thirteenth century there has been a small number of looms for silk-weaving at Paris, but not until the present century did their output assume much importance. At present, perhaps, 25,000 looms are employed at Paris and in the adjoining departments in the weaving of silk and silk-mixed goods, principally galloons, fringes, cords, and all other varieties of passementerie and trimmings. The total value of these goods reaches about 70,000,000 francs annually.

Calais.—Nets, tulles, and laces constitute the specialty of Calais. This industry is of comparatively recent date, the first loom having been introduced in 1816 by English smugglers. The real importance of Calais dates from the introduction of figured tulles in 1836. At present the number of looms at Calais and its suburb Saint-Pierre-lès-Calais is about 1,800. The annual production averages about 50,000,000 francs, but is subject to great variations, owing to the fact that whenever the demand for silk nets and laces is low Calais manufacturers at once substitute cotton or wool on their looms to meet the demands of the trade.

Roubaix.—During the latter half of the present century Roubaix has become the center of an extensive industry, manufacturing silk-and-wool and silk-and-cotton mixed goods, principally upholstery goods. These articles, though often lacking originality, find ready sale on account of their low price. The total number of looms in the north of France engaged in making these mixed goods is estimated at 10,000 and their annual production at 20,000,000 francs.

St. Chamond.—Silk-weaving has been established in St. Chamond, in a modest way, ever since the thirteenth century. During the sixteenth century Bolognese refugees introduced silk-throwing, which, together with ribbon-weaving, attained considerable importance. These industries were badly crippled by the revocation of the edict of Nantes. The number of throwsters fell from 150 to 50, while weaving was entirely discontinued. This period of depression lasted until the beginning of the present century, when the introduction of braid-weaving brought with it a general revival. By confining their attention to braids and similar articles, St. Chamond manufacturers advanced their specialties to a degree of excellence that has established for them a world-wide reputation. The present annual production is valued at 15,000,000 francs, of which three-fourths is exported.

St. Etienne.—The weaving of ribbons is less ancient at St. Etienne than at St. Chamond, having been established about the beginning of the seventeenth century. The number of persons employed in the ribbon industry had attained 4,500 before the revocation of the edict of Nantes, but was reduced to almost nothing by this calamitous measure. The introduction in 1760 of the loom permitting the weaving of several pieces of ribbon at a time instilled new life into the ribbon industry. By the end of the eighteenth century the number of looms had risen to 6,000 and in 1850 to 30,000. Since then a considerable rearrangement of the means of production has become necessary, partly on account of the introduction of power looms, partly in order to economize expenses so as to meet the increased foreign competition. Looms have been transported to the country and aggregated in large factories. The number of power looms has reached 3,000, and the isolated hand looms still owned by the weavers are only employed on goods requiring the greatest degree of care and skill.

The value of the ribbon manufactured by St. Etienne is subject to great variations, as the demand for ribbons is quite fickle. In recent years the output has averaged 100,000,000 francs, of which about one-third is exported. Formerly a much greater proportion was exported, but cheaper wages have enabled Basle and Barmen to undersell St. Etienne in plain and cheap ribbons. St. Etienne, however, holds its time-honored superiority in figured goods and high novelties; in fact, in all articles where artistic taste and skill in designing and executing enter as a factor.

Lyons.—Lyons is by far the most important silk center, not only of France, but of Europe as well. Its geographical position and its four annual fairs early attracted a good number of Italian merchants, who established banks and engaged in the importation and sale of Italian silk goods.

During the fourteenth and fifteenth centuries there were a few isolated looms in Lyons, but silk-weaving did not become an industry of importance until the arrival of numbers of Italian weavers, attracted by the privileges extended them by Francis I. In 1542 the total number of persons employed in the silk industry was already 12,500.

The seventeenth century was one of great prosperity for Lyons. Many important improvements were made in the processes of weaving, dyeing, and finishing, and many new articles were produced. At the time of the revocation of the edict of Nantes (1685) Lyons possessed 10,000 looms for broad goods and 8,000 looms for ribbons and galloons. Within a few years all but 2,500 of these were driven out of the country. For 15 or 20 years the Lyons silk industry seemed annihilated. With the beginning of the eighteenth century great efforts were made under the direction of the chamber of commerce to restore the former prosperity. Inventive genius of all kinds and in all lines was encouraged. New designs and new goods were brought forth. Soon a veritable renaissance was witnessed, and the eighteenth century became, perhaps, the most brilliant in the history of Lyons for the production of the richest grade of goods. Their superiority in artistic taste and execution soon enabled the Lyonese to reconquer the markets of the world. The number of looms, which was 9,000 in 1750, had risen to 18,000 in 1789. Then came the revolution. Lyons did not sympathize with the ultraradical movements, and therefore incurred the hostility of the convention. The city was attacked, and, after a brave resistance, captured and sacked by a revolutionary army. Its industries were, for the time being, completely ruined, and the nineteenth century was begun with but 3,000 looms.

The revolution brought about a great change in fashions and customs. Popular taste favored plain, silk-mixed goods, with but slight demand for brocades. Manufacturers, therefore, had to make new articles and devise new means of production.

During the first decade of this century Jacquard's loom came into use. The cost of brocades was greatly diminished. They were brought within the reach of the middle classes, and their consumption was greatly increased. Jacquard's invention acted as a great stimulus to inventive genius, and the power loom may be regarded as its legitimate outgrowth.

In 1850 the number of looms was 60,000. The total production was valued at 250,000,000 francs, of which over 100,000,000 francs were figured goods. Three-fourths of the whole amount was exported.

During the last 40 years the Lyons silk industry has witnessed many important changes. Among these may be cited the persistent efforts of the manufacturers to drive the looms out of the city into the country, to take them out of the control of the individual workmen and mass them in factories, the introduction and perfection of dyeing in the piece, and of new methods of printing and finishing; but, most important of all, the introduction and tremendous expansion of the power loom.

The number of hand looms reached its climax toward the end of the sixties with about 120,000. Now the number is perhaps 80,000, of which over 60,000 are scattered around in the country. The number of power looms, which was but 6,000 in 1873, is now nearly 25,000, almost all of which are in the country around Lyons within a radius of 75 miles. The value of silk-mixed power-loom goods has increased in the same proportion as the number of power looms and is now about 160,000,000 francs per annum.

The total production of the Lyons silk industry averages about 400,000,000 francs per annum. During the years 1867–'72 it was somewhat greater, but this is due to the fact that raw silk was then worth 100 francs per kilogramme, as against 50 to 55 francs now. The quantity of goods produced is now greater than ever before and constitutes two-thirds of the production of France and one-fourth of the total production of the world.

The organization of the Lyons silk industry is very advantageous to the manufacturers. While some of them own their own looms and factories, the great mass of looms belong to the individual workmen or to the master weavers. No contracts of long duration bind employer and employé. As a result, in times of depression manufacturers need never run at a loss and have none but office expenses to bear. On the other hand, the workmen find it to their interest to do their work as well as they can and to make all possible improvements in methods and machinery. To encourage the latter, the chamber of commerce grants cash prizes to such workmen as make improvements of general interest.

The excellence of Lyons goods is due partially to the fact that every manufacturer, together with the master weavers and workmen depending on him, devotes his entire attention to special lines of goods, and thus attains a degree of perfection which would be quite beyond the reach of a manufacturer attempting to make a number of different articles. The fact that Lyons is the first raw-silk market of the world offers the manufacturer a great variety and choice of raw material.

The great strength of the Lyons industry is to be found in the peculiar aggregation and coöperation of the different branches of manufacturing, in the commercial and technical education of the manufacturers, in the great mass of skilled workmen, in the exquisite taste of the designers, in the perfection of the methods of dyeing, and in the great excellence which the finisher's art has attained.

CONDITION OF THE INDUSTRY.

France consumes about 4,500,000 kilogrammes of raw silk per annum, which may be valued at 250,000,000 to 300,000,000 francs. Adding to this the value of the wool, cotton, and other materials used in mixed fabrics, gives about 400,000,000 francs as the value of the raw materials used by the French silk industry.

Of the raw silk consumed France herself produces but about one-eighth part, the great mass being of Asiatic and Italian origin. In recent years considerable efforts have been made to restore to the French silk-raising its former prosperity, but so far without much success. During the first half of the present century silk-growing was quite prosperous in France. The production, which was 500,000 kilogrammes in 1808, increased steadily until 1849, when it reached 2,000,000 kilogrammes. In 1854 began a series of signal reverses. A ravaging disease attacked the mulberry trees and destroyed whole plantations. Various diseases began spreading among the silkworms and tended to discourage the silk-growers. In 1876 the low-water mark for the century was reached, with a production of but 155,000 kilogrammes. Since then there has been a material improvement, and during the last 10 years the annual production has been from 500,000 to 800,000 kilogrammes.

The total value of the manufactures of silk produced by France is estimated at from 600,000,000 to 650,000,000 francs per annum, the total production of the world being estimated at 1,600,000,000 francs. It will be seen that France produces about two-fifths of the whole amount. The total number of silk looms in France is now estimated at 230,000, as against 30,000 before the revolution.

The exports of French silk goods amount to about 250,000,000 francs per annum. England and the United States are the leading purchasers, taking over two-thirds of the whole amount exported; then follow, in the order named, Germany, Switzerland, Belgium, Spain, Turkey, and Italy. Generally speaking, the volume of exports has been fairly well sustained during the last 30 years, although in some exceptional years the figure reached 350,000,000 francs. In some quarters, however, considerable ground has been lost. Swiss and German competitors have made tremendous strides, and have secured much trade formerly tributary to France. Lower wages permit these countries to undersell France on cheap, plain goods requiring neither taste in designing nor great skill in execution.

The greatest loss to the French silk industry has been occasioned by the establishment and rapid expansion of silk-weaving in the United States. During the years 1870–'73 the United States purchased from 110,000,000 to 130,000,000 francs' worth of French silk goods per annum; now the amount is scarcely half so great, although the consumption of silk goods has greatly increased in the United States. Year after year one line after another of French articles is crowded out of our markets by our own silk industry, and at present we purchase from France only some special lines of goods—articles which we have not yet succeeded in making ourselves. It is safe to say that within a few years we will have ceased buying French silk goods, save high-grade fancy articles and such goods as can only be made on hand looms.

France levies no duty on importations of foreign silk goods. These importations have been growing rapidly of late, reaching the sum of 58,000,000 francs in 1889, furnished by the following countries:

Countries.	Amount.	Countries.	Amount.
	Francs.		*Francs.*
Switzerland	22,000,000	India	2,000,000
China	11,000,000	All other	5,000,000
England	10,000,000	Total	58,000,000
Germany	8,000,000		

Switzerland furnishes light all-silk articles made of Italian silk. This trade has rapidly grown to importance since France began levying a duty on Italian raw silk. England sends a special grade of plushes and some particular lines of fine tie goods. From Germany, mixed goods, especially cheap velvets and plushes, are obtained. China and India contribute those light all-silk articles known as pongees, corahs, and tussahs. These goods are imported in the gray and brought to Lyons to be dyed and printed, and are then generally reëxported to London or New York.

It is not likely that France will be able to expand her silk industry to any considerable extent; but, on the other hand, she will no doubt remain the leading silk-manufacturing nation for many years to come. Certainly no other nation merits so well to be the leader. The industry of no other nation makes such great endeavors to make well whatever it makes or gives evidence of such an inexhaustible wealth of new and artistic ideas. So long as Paris remains the world's center of arts and fashions, so long France will remain the great producer of fine goods. No other nation could at present think of disputing France's leadership in the realm of the beautiful.

In cheap goods competition has a better chance. However, even here the prospects are hopeful for the French industry. French manufacturers do not try to meet the popular demand for cheap goods by providing coarse or unattractive articles, for, however cheap a French silk fabric may be, it always bears the imprint of that quite exquisite taste which, up to date, no other people can impart to it to that degree.

In conclusion, it may be proper to refer to the great progress which has been made in Japan in late years, and which seems to mark that country as destined to become, at no distant day, the great rival of France in silk-manufacturing.

Table showing country of origin of raw silk conditioned at Lyons from 1885 to 1889, inclusive, with percentage of total contributed by each.

Country.	1885.	1886.	1887.	1888.	1889.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
France	13.93	13.12	13.02	12.8	13.31
Spain	0.32	1.03	1	1.04	0.85
Italy	26.8	25.4	20.75	21.26	19.63
Syria	0.79	6.74	6.35	6.33	9.32
India	3.29	2.08	1.52	1.56	1.51
China	33.38	37.34	42.12	36.57	30.99
Japan	14.49	14.29	15.24	20.44	24.39
Total	100	100	100	100	100

NOTE.—The combined percentages of India, China, and Japan are as follows: 1885, 51.16 per cent.; 1886, 53.71 per cent.; 1887, 58.88 per cent.; 1888, 58.57 per cent.; and 1889, 56.89 per cent.

Table showing the exports of French silk goods by articles from 1880 to 1889, inclusive.

Articles.	1880.	1881.	1882.	1883.	1884.
All silk:	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Plain	96,371,134	94,889,421	120,887,595	111,045,178	72,744,464
Figured	15,101,092	15,421,568	20,454,774	26,878,560	19,113,720
Mixed:					
With metal	2,382,940	2,008,370	2,994,370	2,929,920	3,072,900
With fibers	64,631,972	67,380,244	68,620,390	69,076,236	65,500,000
Schappe (pure or mixed)	4,406,340	3,787,010	4,202,496	5,482,956	10,644,240
Tulles	6,367,860	14,536,390	18,243,720	38,980,760	25,867,170
Gauzes, crapes	11,007,182	12,300,664	11,827,654	9,749,888	7,789,830
Ribbons	16,573,445	15,082,730	21,980,707	25,290,620	13,077,903
Laces and trimmings	17,415,816	19,675,114	20,346,039	17,800,370	18,993,539
Total	234,257,781	245,081,511	289,547,745	301,234,488	236,803,766

Table showing the exports of French silk goods, etc.—Continued.

Articles.	1885.	1886.	1887.	1888.	1889.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
All silk:					
Plain	75,239,567	91,017,409	83,024,424	87,916,212	82,627,270
Figured	8,488,746	6,404,320	4,497,732	3,886,200	7,565,700
Mixed:					
With metal	2,570,600	1,127,175	852,438	1,567,315	2,951,440
With fibers	51,536,049	62,894,370	50,578,497	57,686,597	61,137,647
Schappe (pure or mixed)	9,818,428	5,889,807	5,137,536	4,005,882	5,061,882
Tulles	30,122,400	19,630,350	19,852,200	17,429,335	21,038,085
Gauzes, crapes	9,152,006	10,620,416	7,188,386	5,925,080	9,593,810
Ribbons	15,861,542	25,532,678	24,040,864	26,241,391	35,638,883
Laces and trimmings	19,054,318	18,310,718	14,655,066	18,513,164	15,634,447
Total	221,843,656	242,027,213	209,807,123	223,171,176	241,249,164

Table showing the exports of French silk goods by countries from 1880 to 1889, inclusive.

Country.	1880.	1881.	1882.	1883.	1884.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
England	98,993,458	104,955,949	138,584,164	120,757,740	100,891,172
United States	71,215,678	70,697,173	84,277,624	89,146,866	61,716,224
Germany	19,369,275	20,745,360	19,620,060	12,427,458	17,705,984
Switzerland	5,483,987	6,839,672	9,465,474	16,762,478	7,494,859
Italy	8,203,171	12,874,288	8,526,089	8,484,107	8,747,733
Belgium	6,962,119	7,534,110	7,972,033	33,821,503	23,269,767
Spain	8,398,961	6,056,415	6,119,674	4,919,357	4,545,620
All other	15,631,132	15,418,544	14,982,627	14,826,379	12,432,417
Total	234,257,781	245,081,511	289,547,745	301,145,888	236,803,766

Country.	1885.	1886.	1887.	1888.	1889.
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
England	93,406,554	98,858,151	91,354,404	99,083,231	110,198,309
United States	58,582,210	80,095,197	58,484,001	56,277,478	69,302,190
Germany	16,649,452	11,279,784	13,233,476	16,431,555	19,297,400
Switzerland	7,493,525	10,604,340	9,654,832	10,622,221	10,813,332
Italy	13,090,920	10,219,733	8,832,868	3,382,062	5,127,496
Belgium	17,598,989	11,404,535	11,678,258	9,074,267	9,780,941
Spain	4,514,830	5,470,064	4,063,354	7,693,212	6,320,186
All other	10,507,376	14,095,399	12,505,930	20,670,150	10,409,312
Total	221,843,856	242,027,243	209,807,123	223,171,176	241,249,164

CARL A. HANSMANN,
Consular Clerk.

UNITED STATES CONSULATE,
Lyons, April 18, 1891.

GERMAN MINE PRODUCTS.

TRANSMITTED BY CONSULAR CLERK MURPHY, OF BERLIN.

Table showing the actual production in 1889 of mines, salt works, and smelting establishments in the German Empire, as compared with 1888.

Description.	Quantity.		Value of production.	
	1889.	1888.	1889.	1888.
Products of mines.				
Coal:	*Kilogrammes.*	*Kilogrammes.*	*Marks.*	*Marks.*
Pit	67,342,171,000	65,386,120,000	385,080,000	341,063,000
Brown	17,631,059,000	16,573,963,000	44,349,000	40,896,000
Rock salt	554,591,000	414,557,000	2,255,000	1,816,000
Kainite	324,477,000	318,576,000	4,727,000	4,667,000
Potassic salts	861,273,000	916,759,000	10,406,000	10,248,000
Ore:				
Iron	11,002,187,000	10,664,307,000	46,469,000	39,961,000
Zinc	708,829,000	667,761,000	17,690,000	13,747,000
Lead	169,569,000	161,777,000	17,730,000	16,684,000
Copper	573,290,000	530,956,000	18,199,000	17,519,000
Silver and gold	22,264,000	20,390,000	4,042,000	4,069,000
Evaporated salts.				
Chloride of sodium	492,522,000	496,388,000	11,977,000	10,662,000
Chloride of potash	133,957,000	142,765,000	16,791,000	18,360,000
Glauber's salts	69,101,000	52,203,000	1,660,000	1,332,000
Sulphate of potash	29,709,000	33,412,000	4,926,000	4,973,000
Products of smelting establishments.				
Raw iron of all sorts	4,524,558,000	4,337,121,000	217,371,000	191,320,000
Pig-iron:				
For casting	610,893,000	597,851,000	32,842,000	27,858,000
For preparation of ingot iron	1,965,395,000	1,794,806,000	92,115,000	78,787,000
For preparation of weld iron	1,905,311,000	1,898,125,000	87,976,000	80,100,000
Block zinc	135,974,000	133,224,000	49,335,000	43,624,000
Block lead	100,601,000	96,995,000	25,490,000	24,848,000
Block and disk copper	24,597,000	21,569,000	28,109,000	31,539,000
Silver	403,037	406,603	50,813	51,476
Gold	1,958	1,793	5,466	5,004
Sulphuric products of all sorts	431,258,000	339,938,000	14,192,000	13,525,000
Manufactures of raw iron.				
Cast-iron, second smelting	989,622,000	838,251,000	172,917,000	137,657,000
Weld iron and steel	1,749,962,000	1,644,443,000	233,097,000	198,769,000
Ingot iron and steel	2,095,479,000	1,862,677,000	279,912,000	229,782,000

GEO. H. MURPHY,
Consular Clerk.

UNITED STATES CONSULATE-GENERAL,
Berlin, December 8, 1890.

BEER TAX IN DENMARK.

REPORT BY CONSUL-GENERAL CARR, OF COPENHAGEN.

During the recent session of the Rigsdag an important law was passed laying a tax on the manufacture of beer, to take effect on the 1st day of October, 1891. This law created a great deal of discussion, there having been much diversity of opinion as to the wisdom and propriety of such a law. There has heretofore been no tax upon the manufacture of beer.

A tax was laid upon beer containing 2¼ per cent. of alcohol or more of 10 kroners per tonde (29 gallons), but during the period from October 1, 1891, to October 1, 1895, there is to be collected only 7 kroners per tonde.

The brewing of beer containing more than 6 per cent. of alcohol is prohibited.

Beer must remain stored in the brewery until sold for consumption.

Beer subject to tax must not, outside of the breweries and before being placed upon the market, be mixed with beer free of taxation.

The revenue officers must at all times have free access to the breweries, and the brewers must at all times keep an exact account of their stocks on hand and sales.

All matters of dispute are to be adjusted by the minister of finance.

The penalties for transgressing the law are from 50 to 10,000 kroners and imprisonment.

Taxable beer may be exported without paying the tax. A tariff of 15 öre per pound is placed upon all beer, mead, and extract of malt imported in demijohns, bottles, or jars, and 6 öre a pound on all imported in kegs, provided that from the 1st of April, 1891, to the 1st of April, 1895, the tariff duty is to be 10 and 4 öre per pound.

The discussion of the question of the manufacture of beer and its taxation was a matter of great interest. It was contended, on the one hand, that, as so great a quantity is consumed by the people at large, the burden would fall upon the poor to a great extent, while, on the other hand, it was contended that the tax would discourage its use and promote temperance. The discussion resulted in division in the ranks of the Left, the party opposed to the Government, to a greater extent than it has been divided for many years, and the Government party is hopeful that through this they may gain a majority in the Folksthing, but it affects, to some extent, both parties.

This tax on beer enables the Government to reduce the tariff on sugar, chocolate, petroleum, etc.

CLARK E. CARR,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Copenhagen, April 5, 1891.

GERMAN EXPORTS TO THE UNITED STATES.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

For the more convenient reference of the Department, I have prepared and inclosed herewith a tabular exhibit showing the aggregate of declared exports to the United States from the consular district of Frankfort and each consulate under the supervision of this office during the first quarter of 1891, as compared with the exports from each consulate during the corresponding quarter of 1890 and the 3 preceding years. It will appear, from a study of these statistics, that the exports to the United States from southern and western Germany rose about $400,000 above the average during the March quarter of 1890 by reason of speculative operations in consequence of the pending tariff legislation. As a consequence, the exports of the March quarter of 1891 show a deficit of $350,000 below the average. In other words, the excess of 1890 and the deficit of 1891 so nearly balance each other as to assume the relation of cause and effect. Another reason for the decline in exports from this district during the past quarter will be found in the fact that the River Rhine was closed by ice during the greater part of the winter, so that the heavier kinds of merchandise, which are usually shipped from the interior by water, could not be moved.

Table showing the declared exports from the district of Frankfort during the first quarter of 1891, as compared with the corresponding quarter of the 4 preceding years.

Cities.	1887.	1888.	1889.	1890.	1891.
Frankfort	$748,850.34	$643,544.55	$762,736.96	$922,697.21	$853,722.76
Aix la Chapelle	653,572.57	494,767.75	420,370.79	360,665.35	413,741.45
Barmen	1,181,405.78	1,132,845.81	1,120,880.34	1,838,275.30	1,548,775.43
Elberfeld*	577,998.38	616,837.45	652,631.64	....	....
Crefeld	1,325,622.89	1,325,622.89	961,933.88	1,561,516.80	1,182,278.74
Cologne	793,184.03	549,282.46	597,362.33	664,266.20	450,723.56
Dusseldorf	1,163,820.98	844,166.60	471,711.19	315,610.93	346,007.12
Kehl	352,039.35	412,735.95	709,100.50	473,959.65	567,885.45
Mannheim	412,108.61	326,029.77	412,566.58	683,490.64	862,668.87
Mayence	357,300.51	390,107.93	360,249.50	429,239.24	412,768.27
Munich	147,690.16	193,557.83	225,900.11	263,276.49	180,207.28
Nuremberg	1,120,644.46	1,130,057.32	1,275,904.65	1,214,057.59	581,062.98
Fürth†	....	....	....	....	565,682.82
Sonneberg	375,558.00	418,591.92	368,573.04	500,936.59	648,798.07
Stuttgart	595,846.06	615,476.63	457,719.46	357,272.30	315,140.42
Total	9,804,672.12	8,729,935.85	8,994,997.02	9,585,264.29	8,929,463.14

*Consulate abolished in 1890.

†Commercial agency established August 15, 1890.

The decrease during the first quarter of 1891, compared with corresponding quarter of 1890, was $655,801.15; average total exports during first quarter of 4 years 1887–'90, inclusive, $9,278,717.32; deficit of first quarter of 1891 from average of preceding 4 years, $349,254.26; excess of exports during first quarter of 1890 above average of 3 preceding years, $408,729.30; average total exports during first quarter of 10 years 1881–'90, inclusive, $7,347,777.72; excess of exports during first quarter of 1891 over average of preceding 10 years, $1,581,685.42.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, April 4, 1891.

Population of England and Wales.—On page 553 of CONSULAR REPORTS No. 127 the estimated population of the United Kingdom for 1889 is printed as follows:

England and Wales	39,015,613
Scotland	4,077,070
Ireland	4,730,566
Total	37,823,249

It is hardly necessary to say that the population of England and Wales should have been printed 29,015,613, instead of 39,015,613.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 130.—JULY, 1891.

FRUITS OF JAMAICA.

REPORT BY CONSUL ESTES, OF KINGSTON.[*]

Naseberry sapodilla.—The naseberry sapodilla (*Achras sapota*) is a native of the West Indies. The tree has dark green, shining leaves. The fruit is about the size of an ordinary quince, having a rough, brittle, dull-brown rind, the flesh being of a dirty, yellowish white color, very soft and deliciously sweet. The exports were only 14,026, valued at $60, all to the United States.

Cashew.—The cashew (*Anacardium occidentale*) is a native of the West Indies. It is a tree 30 or 40 feet high, with simple leaves and small flowers. The fruit consists of a nut on the apex of a pear-shaped body formed of the enlarged top of the stalk. The nuts are commonly roasted, which improves their flavor. They yield by expression a light-yellow, bland, nutritious oil, superior to olive oil. The ripe, fleshy stalk is also used as a fruit, is about the size of an ordinary orange, and contains an acrid juice, from which a pleasant wine is made.

Pineapple.—The pineapple (*Ananassa sativa*) is a native of tropical America. It is an almost stemless plant with spiny leaves. The flowers are arranged many together in a dense head, the whole developing into a single fruit. It was so named from the resemblance of the fruit in shape and external appearance to the cone of the pine tree. The fruit is used fresh, stewed, or preserved. The juice is said to allay gastric irritability in fever. The export in 1889 was 8,292 dozens, valued at about $5,000, of which 7,671 dozens went to the United States.

Cherimoyer.—The cherimoyer (*Anona cherimolia*) is a native of Jamaica and Central and South America. It is a tree with inconspicuous flowers and a large, smooth, green fruit. The fruit, being somewhat acid, is very agreeable.

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[*] Consul Estes acknowledges his indebtedness to Mr. William Faucett, esq., director of public gardens at Kingston, for valuable assistance in the preparation of this report.

Soursop.—The soursop (*Anona muricata*) is a native of the West Indies. It is a small tree, with large, green fruit covered with soft prickles, diuretic in its effects; closely allied to the custard-apple fruit of a large size.

Custard apple.—The custard apple (*Anona reticulata*) is a native of tropical America. It is a small tree; bark is an astringent and tonic; leaves and young twigs used for tanning. The fruit, unripe, yields a black dye; ripe, it is said to be antidysenteric and vermifugal. It is the size of a tennis ball, of a brownish color, containing a yellowish eatable pulp of the consistency of custard.

Sweet-sop.—The sweet-sop (*Anona squamosa*) is a native of tropical America. It is a small tree. The fruit, when unripe, dry, powdered, and mixed with flour, is used to destroy vermin. The ripe fruit is agreeable and good for digestion.

Peanut.—The peanut (*Arachis hypogæa*) is not cultivated in Jamaica to any great extent.

Breadfruit.—The breadfruit (*Artocarpus incisa*) is a native of the East Indies. It is a tree with milky sap and large fruit, 5 to 7 inches in diameter. The trees bear prolifically. The fruit, when baked, somewhat resembles bread and is eaten as food; hence the name.

Jack fruit.—The jack fruit (*Artocarpus integrifolia*) is a native of the East Indies. It is a tree with milky sap and large, oblong fruit. The seeds, when roasted, taste like nuts.

Bilimbi tree.—The bilimbi tree (*Averrhoa bilimbi*) is cultivated in the East Indies. It is a small tree with reddish-purple flowers and cylindrical fruit, with five rounded lobes. The flowers are made into preserves, the fruit is used in curry and preserved in sugar, and the juice is made into a sirup and is used as a cooling drink in fevers and externally in cutaneous diseases.

Carambola.—The carambola (*Averrhoa carambola*) is cultivated in the East Indies. It is a small tree with yellowish-purple flowers; fruit acutely five angled. Unripe, it is astringent, and is used as an acid in dyeing, probably acting as a mordant; fruit, ripe, is an antiscorbutic. It is made into curries, pickles, and preserves. The juice removes iron molds from linen.

Annotto.—The annotto (*Bixa orellana*) is a native of the West Indies. It is a low tree, 10 feet high, with large, rose-colored flowers. The seed vessels are spiny and seeds covered with a colored pulp. J. J. Bamery, island chemist, has invented a method of obtaining annotto in powder, which is said to be of a superior kind. The exports in 1889 were 455,874 pounds; value, about $19,000; to the United States, 410,585 pounds.

Lotus berry.—The lotus berry (*Byrsonima coriacea*) is native. It is a tree 20 to 30 feet high; leaves simple, flowers golden-yellow; fruit yellow, size of small cherry, and edible.

Divi-divi.—The divi-divi (*Cæsalpinia coriaria*) is native. It is a small, crooked tree; flowers white and fragrant; pod flat, incurved; grows in the hottest and driest places; pods rich in tannin. It is exported to a very small extent to the United Kingdom. If the seeds are not removed, the acid they contain induces fermentation. The powder of the pods is astringent and is used for antiperiodic tonic.

Papaw.—The papaw (*Carica papaya*) is a native of the West Indies and Central America. It is a tree 18 to 20 feet high, with milky juice, generally branchless; leaves large, lobed; flower small; fruit yellow, size of a small melon. The juice of unripe fruit is useful in dyspepsia as a vegetable substitute for pepsin. The unripe fruit is cooked as a vegetable, and the ripe fruit as dessert has the same effect and acts as a mild purgative. The digestive property of the juice and the fresh leaves is made use of to render meat tender and facilitate the process of cooking.

Clove.—The clove (*Caryophyllus aromatica*) is cultivated in Jamaica. It is a small tree, of which the unopened flower buds form the cloves of commerce. The buds and stalks abound in an essential oil.

Star apple.—The star apple (*Chrysophyllum cainito*) is a native. It is a tree with leaves of a yellow hue beneath; flowers purplish inside; fruit size of an apple, green or purplish, and edible. It is so called because, when the fruit is cut across, the seeds present a starlike figure.

Cinnamon.—The cinnamon (*Cinnamomum zeylanicum*) is a native of the East Indies. It is a small tree. The cinnamon of commerce is obtained by stripping the bark from the shoots after they turn brown at the age of 18 months or 2 years. The leaves yield "clove oil."

Sweet orange.—The sweet orange (*Citrus aurantium*) is a native of northern India. It is a small tree. The orange is little cultivated in Jamaica. The Manchester orange used to have a distinct place in market quotations and be considered among the best, but, not having been cultivated for many years, it has deteriorated, and the Manchester orange of to-day offered in the markets of the United States does not come from Jamaica at all; yet, if properly cultivated, there is no doubt but the oranges of Jamaica would occupy a place near the top of the list. Quite a large trade is still done in shipping oranges to the United States from Jamaica. They are nearly all shipped in barrels and repacked in New York. The exports in 1889 were 35,394,271; value, about $25,500; to the United States, 34,354,621.

West India lime.—The West India lime (*Citrus aurantium*) is a smaller tree, with smaller leaves, flowers, and fruit than those of the orange. The fruit yields a juice which, like that from the lemon, is refrigerant and antiscorbutic, the latter property being due, according to Ganod, not to the citric acid, but to the potash salts contained in the juice. The export trade in limes and lemons is very limited, in 1889 being only 701 barrels, of which 690 went to the United States; total value, $1,000.

Bitter or Seville orange.—The bitter or Seville orange (*Citrus aurantium*) is a small tree, the wing of the leaf-stalk broader than that in the sweet orange; fruit with bitter rind and pulp. The rind is used for marmalade.

Shaddock.—The shaddock (*Citrus decumana*) is said to be so called from Captain Shaddock, who first brought this fruit from the East Indies. It is a large species of orange. The export in 1889 was 33 barrels; value, $80.

Citron.—The citron (*Citrus medica*) is a native of northern India. It is a small tree; leaves with short stalk and not winged; flowers pinkish, with purplish buds; fruit with transverse and longitudinal furrows; very thick, hard rind; pulp scanty, with acid juice. Like lemon rind, it yields an essential oil. The essence of cedrat is used for perfumery. The rind of the fruit is candied and used for dessert and confectionery.

Lemon.—The lemon (*Citrus medica*, var. *limonum*) is a native of northern India; fruit smooth and acid pulp. The outer rind is an aromatic stomachic. Oil or essence of lemon is obtained from the rind. The juice is used to prepare citric acid.

Seaside grape.—The seaside grape (*Coccolaba uvifera*) is a native of the West Indies and tropical America. It is a tree with roundish, cordate leaves; flowers without petals, and hanging bunches of dark-blue berries. In Jamaica this species remains small, whereas elsewhere it grows into a large tree, notably in Honduras. The fruit is so very astringent that caution has to be exercised in its use.

Cocoanut palm.—The cocoanut palm (*Cocos nucifera*) is a native of the tropics; a palm with pinnate leaves. "Toddy" is obtained from the flower spathe just before it opens by slicing off the top and collecting the sap in a vessel. It has a pleasant, sweetish taste, and in large doses is aperient; fermented it is intoxicating. It can also be boiled down into a coarse sugar called "jaggery," which is refined or fermented and distilled into spirits. The young cocoanut contains a sweet, refreshing water and jelly. The nut is generally harvested before it is perfectly mature. If the outer skin dries on the tree, the fiber of the husk becomes coarse and dark in color; if too young, it is weak. Cocoanut milk is made from gratings of the kernel. The shell is carved and used for many purposes. The dried kernel is known as "kopra," and is used for the preparation of oil by expression or boiling. The solid fat is employed in making candles and the oil for cooking, for lamps, as a substitute for codliver oil, etc. The cake which is left, or "poonac," is a good food for cattle, and is also used as a manure. The husk of the fruit yields coir fibre. Coir is remarkable for its durability, and is used for the manufacture of various textile fabrics, brushes, cordage for the rigging of ships, nets, matting, stuffing of cushions, pads, and mattresses, scrubbing brushes, fishing nets, etc. The tender leaves are used for plaiting mats, boxes, and other fancy articles. The mature leaves are plaited into matting, and also used as materials for fences, sails, buckets, books, fans, torches, and fuel. The ash yields an abundance of potash. The midribs of the leaflets are made use of as brooms, brushes, and skewers. The stalk of the spadic itself is in everyday use as a chunam brush to whitewash houses with. The reticulated web of the base of the leaf forms a coarse kind of cloth. The cottony hairs are used as a styptic. The soft parts within the stem of the cocoanut are cut out and pounded in a mortar; the resulting pulp is washed in water, and the farina is collected and used as a substitute for sago. Aged and unfruitful trees are cut down, and the wood is turned to a variety of useful purposes. It is hard, handsome, and durable (known under the name of porcupine wood). It is used for veneering, and the hard stem is converted into drums, gutters, waste pipes, small boats, frames, furniture, rafters for houses, spear shafts, shingles, walking sticks, ladies' workboxes, etc. The root stem takes a high polish so as to resemble agate. A dye can be extracted from every part of the plant, producing a dirty brown color. They are grown and exported in large quantities. In 1889 4,831,615 were exported, the United States taking 4,088,375.

Bissy, kola, or cola.—The bissy, kola, or cola (*Cola acuminata*) is a native of tropical west Africa. It is a tree of moderate height; leaves simple, 6 or 8 inches long; flowers with a pale yellow calyx, but without petals; seeds large, and used like chocolate. They are said to be of great dietetic value, and also to be useful in dyspepsia and nervous diseases. It has been said that the beverage made with cola paste is ten times more nutritious than chocolate made with cacao. The reputation of this substance in sustaining the system against fatigue is such that it is meeting with consideration from the military authorities of the world as an article to be given to soldiers during active service. Seeds have been sold lately in London at 50 cents, and even 75 cents, per pound.

Taro.—The taro (*Colocasia antiquorum*) is a native of the East Indies. It is an arum-like plant, with large, heart-shaped leaves and tuberous root stocks. The tubers (eddoes) often weigh several pounds and form a nutritious food when well cooked. Young leaves may be eaten like spinach.

Calabash.—The calabash (*Crescentia cujete*) is a native of the West Indies. It is a tree with narrow leaves; flowers 2 to 3 inches long, variegated in color; fruit pulpy, with a hard shell. The expressed juice of the pulp is a purgative, also a demulcent and pectoral. The shell of the fruit makes good drinking cups, vessels for carrying water, etc.

Wild cucumber.—The wild cucumber (*Cucumis anguria*) is a native of the West Indies and tropical America. It is a climbing plant with tendrils; leaves five lobed; flowers yellow and small; fruit spiny. It is a wholesome vegetable; also used in pickles.

Akee.—The akee (*Cupania edulis*) is a native of tropical West Africa, naturalized in Jamaica. It is a tree with pinnate leaves; flowers white; fruit red, splitting on the tree, displaying the black seeds half inclosed with a white covering. The white covering of the seeds is a wholesome vegetable.

Yam.—The yam (*Dioscorea alata*) is a large, esculent tuber, or root, of various climbing plants, growing in all tropical climates, and forming, when roasted or boiled, a wholesome, palatable, and nutritious food. The yam forms an important item of food for the natives of Jamaica, and a small export trade is done in them.

Yam bean.—The yam bean (*Dolichos tuberosus*) is a native of tropical Asia. It is a twining plant; leaves compound; flowers white; pod straight and compressed, with reddish hairs; seeds red; root formed of a number of fibers several feet long bearing tubers. The roots afford a plentiful supply of wholesome food. The produce of three plants is usually a bushel. The tubers may either be boiled plain, in which state they are a very good substitute for yams or other roots in common use, or they may be submitted to a process similar to arrowroot and a starch obtained. The starch is of a pure white, and is equal in every respect to arrowroot. To the taste it is very palatable, is easily digested, and is employed for custards and puddings. Even the trash left after obtaining the starch, which is lost in the preparation of arrowroot, may, when thoroughly dried, be formed into a palatable and wholesome flour. A very excellent flour may also be obtained by slicing the tubers, drying them in the sun, and then reducing to a powder. This plant is deserving of being more generally cultivated than it has been. It can be planted at any season of the year, and the roots are fit for digging in the course of 4 or 5 months. The return is infinitely greater than that from arrowroot, and the proportion of starch also is more abundant. The young pods may be used like French beans, but the ripe beans are poisonous.

Coca shrub.—The coca shrub (*Erythroxylon coca*) is a native of the Andes cultivated in Jamaica. It is a shrub with pale yellow flowers and red berries. The leaves dried form the coca of commerce. The chief constituents of coca are cocaine and hygrine.

Antidote cacoon.—The antidote cacoon (*Feuillea cordifolia*) is a climbing plant with tendrils; leaves roundish, three-fourths of an inch; flowers small, orange colored; fruit size of an apple, of a russet color, hard, full of large, flat, round seeds. The seeds abound in oil and are said to possess medicinal qualities.

Okra.—The okra (*Hibiscus esculentus*) is a large annual herb; flowers pale yellow, with a red base; fruit cylindrical, 3 to 6 inches long. The principal use of okra fruit is as a vegetable and to thicken soups, etc. The whole plant abounds in a viscid mucilage, and the seeds yield an oil similar to olive oil.

Indigo.—The indigo (*Indigofera tinctoria*) is raised but little in Jamaica. This is the indigo of commerce.

Mammee.—Mammee (*Mammea americana*) is a native. It is a spreading tree 40 to 60 feet high; fruit larger than an orange, russet brown, of a sweetish, somewhat aromatic, taste, and of a peculiar odor.

Mango.—The mango (*Mangifera indica*) is a native of the East Indies. It was naturalized in tropical America and introduced into Jamaica about 100 years ago. It now grows spontaneously in the interior of the island up to 4,000 feet. The diameter is up to 4 feet; height, 30 feet; fruit of an oval, oblong shape, size of medium apple. There are many varieties of mangoes in Jamaica, the famous "No. 11" being far superior to all others; but so little attention is paid to their care or cultivation that it is getting very hard to get the No. 11 unmixed with other varieties. Few people like mangoes at first, but soon acquire a taste for them. They are to be had almost the year round, but the months of May, June, July, and August are their season. During this time the natives very nearly live on them, and it is harder to employ a native during this season of the year than any other, as the mango supplies nearly all his wants during the season. Thousands of bushels rot on the ground for want of a market; few are exported. In 1889 170,980 mangoes were exported, 70,530 to the British West Indies and 95,250 to the United States. They are very perishable, but with fast steamers that could make the trip from north side ports to New York in 4 or 4½ days a profitable trade might be built up. The mangoes can be had almost for the gathering.

Cassava.—The cassava (*Manihot utilissima*) is a native, probably, of Brazil. It is a half-shrubby perennial, with very large yellowish roots filled with a milky juice, which is poisonous; but by treatment with water, heat, and pressure the poisonous qualities are removed, and the root yields a starchy substance called cassava or cassava meal, much employed for food. Tapioca is purified cassava.

Genip.—The genip (*Melicocca bijuga*) is a native of Trinidad. It is a large tree, 40 to 50 feet high; leaves pinnate; flowers very numerous, small, and fragrant; fruit green, size of a pigeon's egg. The pulp is edible and of a sweet, subacid, slightly astringent taste.

Arrowroot.—The arrowroot (*Maranta arundinacea*) is an herbaceous perennial. The root is used as a medicinal food.

Plantain.—The plaintain (*Musa paradisiaca*) has a growth much like the banana fruit. It requires cooking. Fried or boiled when ripe and roasted when green, it is an excellent vegetable of great value to the natives.

Banana.—The banana (*Musa sapientum*) has a soft, herbaceous stalk, with leaves of greath length and breadth. The flowers grow in bunches covered with sheaths of purple color. The fruit is 5 or 6 inches long and over 1 inch in diameter. It is eaten either raw when ripe or fried in slices. Bananas are third in rank in the list of Jamaican exports. In 1889 2,881,313 bunches were exported, valued at $1,226,917, of which the United States took 2,879,560 bunches. By cultivation the production could be greatly increased.

Nutmeg.—The nutmeg (*Myristica fragrans*) is nearly spherical, of the size of a medium-sized pear, of a yellowish color without and almost white within. It opens into two nearly equal longitudinal valves, inclosing the nut surrounded by the exterior covering, which is mace. The nut is oval and the shell dark brown. This immediately envelops the kernel, which is the nutmeg of commerce.

Rice.—The cultivation of rice (*Oryza sativa*) is just beginning to receive attention in Jamaica.

Mountain sweet cup.—The mountain sweet cup (*Passiflora edulis*) is a native of the Andes naturalized in the Blue Mountains. It is a passion flower with lobed leaves and whitish flowers; fruit egg shaped, purplish, with hard shell and edible pulp.

Water lemon.—The water lemon (*Passiflora laurifolia*) is a native of the West Indies and tropical America. It is a passion flower; leaves oval, entire; flowers white with red blotches; crown violet with white streaks; fruit egg shaped, of an orange-yellow color, and soft rind; edible pulp.

Sweet cup.—The sweet cup (*Passiflora maliformis*) is a native of the West Indies and tropical America. It is a passion flower; leaves ovate, entire; flowers variegated; fruit globular, green with yellow tint; very hard shell, and edible pulp.

Granadilla.—The granadilla (*Passiflora quadrangularis*) is a native of the West Indies and tropical America. It is a passion flower with four-winged stem; leaves ovate, roundish; flowers large; petals rosy; crown violet; fruit 5 inches long, greenish yellow, with soft, thick rind; root large and fleshy. It is edible, like yam. The pulp is edible, and the rind is edible when cooked.

Wild clove.—The leaves of wild clove (*Pimenta acris*) yield oil of bay, one of the ingredients of bay rum.

Pimento or allspice.—The pimento or allspice (*Pimenta officinalis*) is a native. It is a tree 30 feet high, with very smooth, light gray bark. The wood is very hard. The young trees are used for walking sticks, in which a considerable export trade is done. The berries are collected of full size, though unripe, and dried in the sun for export. There was $232,825 worth of pimento exported, of which $107,220 went to the United Kingdom and $123,558 to the United States.

Guava.—The guava (*Psidium guavy*) is a native. It is a low tree or bush. The fruit, stewed or made into jelly, is delicious.

Pomegranate.—The pomegranate (*Punica granatum*) is naturalized. It is a bush or small tree. The fruit is the size of a large orange, having hard rind, soft pulp, and numerous seeds. It is used as a dessert and may be eaten as a slightly astringent and refreshing refrigerant in some febrile affections, especially those of the bilious type.

Jamaica blackberry.—The Jamaica blackberry (*Rubus jamaicensis*) is a native of Jamaica. It is a bramble; fruit palatable. If infused in spirits with the bruised kernels of the prune tree and sweetened with sugar, a liqueur is obtained not inferior to, and not to be distinguished from, the Copenhagen cherry brandy.

Sugar cane.—The sugar cane (*Saccharum officinarum*) is a native of India and China. It is a large perennial grass, with thick rootstock and numerous stems. The ripe canes are cut down to the ground, stripped of their leaves, and subjected to pressure between two rollers, or in some other suitable way. The cane juice thus obtained is clarified by the combined use of lime and heat. The heat coagulates any albumen which may be present, and the lime neutralizes the free acid and combines with a peculiar albuminous body not coagulable by heat or acids and forms with it a coagulum, the separation of which is promoted by the heat. Part of it rises to the top as a scum. and the remainder subsides. The clarified juice is then drawn off into the boiler, evaporated, and skimmed. When it has acquired a proper tenacity and granular aspect, it is emptied into a cooler and allowed to crystallize or grain. The concrete sugar is then placed in casks perforated with holes in the bottom, and the sugar is left to drain for 3 or 4 weeks. It is then packed in hogsheads, forming raw or muscovado sugar. The drainings or uncrystallized portion of sugar constitutes molasses. Molasses is capable of fermentation, and then by distillation yields rum. The sugar and rum production has greatly fallen off in Jamaica since slavery was abolished, and more rapidly within a few years, consequent upon the development of the fruit trade. The sugar exports in 1889 were 32,323,826 pounds; value, $1,189,217.45; of which the United States took 23,327,250 pounds, valued at $858,226.66. The rum exports for same year were 1,374,931 gallons, valued at $669,110.15; of this the United Kingdom took 1,216,012 gallons and the United States 37,442 gallons. Thus the United States is Jamaica's best sugar market and the United Kingdom the best market for her rum.

Chocho.—The chocho (*Sechium edule*) is cultivated in the West Indies. It is a climbing plant, with tendrils; roots large and fleshy; leaves large, simple; flowers yellow; fruit 4 or 5 inches long. The root can be used like the yam. The fruit is a most wholesome vegetable. It is also made into tarts with the addition of limes.

Tamarind.—The tamarind (*Tamarindus indica*) is cosmopolitan in the tropics. The trunk of the tree is lofty, large, and crowned with spreading branches; it is much valued as a shade tree. The flowers are in simple clusters, terminating the short lateral branches. The fruit is prepared in the West Indies by removing the shell, placing alternate layers of fruit and sugar in a jar, and then pouring boiling sirup over them. In the East Indies the shell is removed and the fruit simply pressed together in a mass. Tamarind pulp is laxative and refrigerant, and is also used to prepare a gargle for sore throat.

Cacao or chocolate tree.—The cacao or chocolate tree (*Theobroma cacao*) is a native of tropical America. It grows to the height of 20 or 30 feet, with a brownish bark, and bears a pulpy fruit containing seeds of a flat, oblong shape, from which chocolate is made. The exports in 1889 were 524,896 pounds; value, $51,496.42; of which 367,705 pounds went to the United Kingdom and 63,380 pounds to the United States.

Vanilla.—The vanilla (*Vanilla planifolia*) is a climbing orchid with pale yellowish-green flowers and a long two-valved pod. The pods forming vanilla are gathered before they are quite ripe and dried. Vanilla is used in perfumery and for flavoring chocolate, liqueurs, etc.

Wild grape or water-withe.—The wild grape or water-withe (*Vitis caribæa*) is a small fruit of the size of a current, and has a rough acid taste, recommending it for tarts.

Grape vine.—The grape vine (*Vitis vinifera*) is a native of south Europe, scarcely cultivated in Jamaica. It could be profitably raised in some parts of the island.

Mountain plum.—The mountain plum (*Ximenia americana*) is a native of the tropics. It is a tree with simple leaves; flowers white, in clusters; fruit yellow, size of a plum; pulp of a pleasant subacid taste with a slight astringency.

Ginger.—The ginger (*Zingiber officinale*) is a native of tropical Asia. It is a perennial herb, with a rootstock consisting of many roundish joints. The rootstock dried forms the ginger of commerce. The exports for 1889 were 895,227 pounds; value, $90,592.01; of which the United Kingdom took 564,069 pounds and the United States 299,630 pounds.

W. R. ESTES,
Consul.

UNITED STATES CONSULATE,
Kingston, Jamaica, March 25, 1891.

INDUSTRIAL POSSIBILITIES OF COLOMBIA.

REPORT BY MINISTER ABBOTT, OF BOGOTA.

PHYSICAL FEATURES.

The territory of the Republic comprises the northwest corner of South America. It is bounded upon the north by the Caribbean Sea, on the east by Venezuela and Brazil, on the south by Ecuador, and on the west by the Pacific Ocean and Costa Rica. Its shape is irregular, the northern peninsula reaching 12° 25′ north latitude, its east and west extension being between 70° 40′ and 82° 40′ west longitude, while its southern limit is nearly coincident with the equator.

It is said to contain about 500,000 square miles, an area equal to that of New England, New York, New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Indiana, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, and Georgia. The extreme length from north to south is about 900 miles, and its extreme breadth from northwest to southeast approaches 1,200 miles. Its average length is, more or less, 700 miles and breadth 500 miles. Its southeastern half consists of vast plains, whose numerous rivers, rising in the cordilleras at the west, discharge their waters into the Atlantic through the mouths of the Amazon and Orinoco. These plains, hot and insalubrious, are sparsely peopled by the aborigines of the Republic, who there, as well as in certain other portions of the country, exist as untutored as their ancestors, unrestrained by law, untouched by the hand of civilization, a standing menace to the curious traveler or the adventurous hunter: still, these plains are among the richest and most valuable possessions of Colombia. Their fertile lands are susceptible of cultivation, and their products could find an easy market by a narrow-gauge railroad to the Magdalena River, the construction of which is not an impossible or an improbable thing. On these now useless plains vast herds of cattle would thrive. From the forests, which exist here and there, might be extracted large quantities of gums, fibers, and precious woods. Coffee and cacao might be made to yield rich harvests. The difficulties of transportation have always prevented any material advancement upon these plains. If Colombia extended to the Atlantic coast, steam navigation to these regions might prove, on examination, to be the better; but it is more probable that a railroad to the Magdalena would prove more feasible.

The northern and western parts of the country constitute one of the most mountainous regions of the globe. The great chain of the Andes, arriving at Colombian territory, separates itself into three divisions, known, respectively, as the Eastern, Central, and Western cordilleras, which, with numerous ramifications, cross the Republic in a northerly direction.

These topographical peculiarities give to the country every variety of climate, soil, and vegetation. In the high peaks or ranges agriculture is nearly impossible, while in the rich river valleys the laborer is oppressed with the heat of the tropical sun, which the Caucasian almost instinctively avoids.

The wealth of these lands is unquestionable, and the time of their development is approaching.

The constitution and governmental system of the Republic are well known to the Department and need no further description, and the same may be said of its railroads.

TELEGRAPHS.

The first telegraph was constructed in 1866 by Mr. Stiles, a citizen of the United States. There are now 8,400 kilometres in operation and two hundred and forty-five offices. In the more populous regions the service is excellent, but in other sections it is slow and liable to frequent interruptions. The foreign cable service is most satisfactory.

MERCHANT MARINE.

The country possesses no merchant marine, unless the small schooners engaged in the coasting trade may be so designated. It has two small men-of-war for enforcing compliance with its customs laws.

DEPARTMENTS.

The country is divided into nine departments, viz, Antioquia, Bolivar, Boyacá, Cauca, Cundinamarca, Magdalena, Panama, Santander, and Tolima. Of these departments Cauca is the most extensive, comprising nearly one-half of the Republic and being the only one, except Panama, bordering on the Pacific Ocean.

I venture to say a few words upon each department.

Antioquia.—The department of Antioquia is very mountainous and quite sterile. Its capital is Medellin, a city of 30,000 inhabitants, a great commercial and intellectual center. It is noted in the foreign trade for the sterling integrity of its merchants. It is a distributing point for Antioquia and a large section of Cauca. It is famous for the peaceable and laborious character of its people. Its soil is rich in mines of gold, its mountains are crossed by numberless veins, and its river beds form an uninterrupted series of gold-bearing sands. The richest sections are said to be in the lands watered by the Porce and Nechi rivers. It would be difficult, even impossible, to estimate the value of the precious metals taken from Antioquian soil since the conquest, but even more difficult to form an idea of what still remains.

The department contains seventy-six cities and towns, has a population of 370,000 souls, and is reached by the Magdalena River port of Puerto Berrio, 6 days' journey by river steamer from the Caribbean coast.

Bolivar.—The department of Bolivar derives its name from the great liberator Simon Bolivar. Its capital is Cartagena, whose name is celebrated in American annals. It is a walled city whose fortifications are said to have cost the Spaniards $59,000,000. It has a large and perfectly sheltered harbor. It has a population of 19,000.

This department is well watered by the Magdalena, San Jorge, Cauca, and Sinu rivers, and, as a consequence, its plains, and even its mountains, are fertile and productive. Its agriculture is not, however, well developed, but its cattle industry is of considerable importance. From its forests, as from all those bordering upon the great rivers, are extracted resins, balsams, and the most beautiful precious woods. In this department is also situated the important port of Barranquilla. The population is 300,000, and the cities and towns number 123.

Boyacá.—The department of Boyacá has for its capital the city of Tunja, one of the most ancient in the country, and whose population is 6,000. Relatively speaking, agriculture and manufacturing are in a forward state in Boyacá. In the city of Muso there exists the largest emerald mine of the world. Cattle cover the vast plains of the east. The cities and towns number 127, and the population is 484,000.

Cauca.—The department of Cauca has for its capital Popayan, a city of 8,000 people. The soil is very fertile and capable of the most advantageous cultivation. Its climate is somewhat unwholesome in certain sections. Gold abounds in the Choco region, where may also be found the best platinum mines in America. The cities and towns number 128. Among them Cali deserves special mention. It contains 13,000 inhabitants and seems destined to enjoy a large increase of business and population upon the completion of the railroad to Buenaventura, now being constructed under the auspices of an American syndicate. The population of Cauca is 436,000.

Cundinamarca.—The department of Cundinamarca may be said to be the most important of the Republic, since it is the seat of the capital Bogota. This beautiful and cultivated city is situated upon a vast plain, 8,500 feet above the sea level. Its temperature is about 60° F., and its population may be estimated at 100,000. Bogota is the principal commercial and intellectual center of the country, and is adorned by numerous beautiful edifices and public parks.

In Cundinamarca are found the great salt mines of Zipaquira. The monopoly of their products constitutes a large source of revenue to the nation. The principal industries are agriculture and cattle-raising. It has 108 cities and towns and 410,000 inhabitants.

Magdalena.—The department of Magdalena has for its capital the seaport city of Santa Martha, whose inhabitants number 6,000. Although this section is poor in metals, it contains most valuable coal mines. Cattle-raising is also a large industry. Its forests abound in resins and precious woods. It has 68 cities and towns and 85,000 inhabitants.

Panama.—The department of Panama is named from the celebrated isthmus. Its commercial importance is derived from the fact that it is the world's highway between the Atlantic and Pacific. Its capital is the city of Panama, whose inhabitants number 25,000. The Panama Railroad, owned by a North American corporation, crosses the isthmus from Colon to the capital. The industries, other than mercantile, are not great. Pearls are found upon its coasts. The cities and towns number 60, and the population is 221,000.

Santander.—The capital of the department of Santander is Socorro, a city of 16,000 inhabitants. This section is distinguished by the vigor and energy of its people. Agriculture flourishes to such an extent that more coffee is raised here than in any other equal area of the country. Hats and ordinary cloths are manufactured. Its mining interests are also important. Its principal river port is Puerto Nacional. It has 120 cities and towns. The most important is Cucuta, a commercial center and the end of the Cucuta Railroad. It has 424,000 inhabitants.

Tolima.—The department of Tolima is an agricultural and mining section. Its capital is Ibague, a city of delightful climate, with a population of 10,000. Its mines are rich and valuable and have been worked ever since the Spanish conquest. Its cities and towns number forty-nine, the principal of which is Honda, the head of navigation on the lower Magdalena River. Its population is 230,000.

MANUFACTURES.

If we except the few cloths which are made in the departments of Boyacá and Santander and the very few woven by the Indians of Pasto, upon the boundaries of Ecuador, the straw mats fabricated in Magdalena and Bolivar, and the hats made in certain sections of Tolima, Antioquia, and Santander, we may affirm in a general way that there are no manufacturing industries in Colombia. Such cloths as are woven are the result of the same methods as were employed a century ago. So small is this industry that even the inhabitants of the remotest villages are ordinarily compelled to wear cloths of foreign manufacture, only 1½ per cent. of which come from our own country.

Climatic conditions have much to do with this lamentable situation. In many sections of the Republic these conditions are such as to prevent the descendants of the Spaniards from occupying the land, thereby leaving everything to the progeny of the former African slaves, who, by reason of the same conditions, never advance much beyond such labor as will enable them to gain a bare subsistence. To such sections the Caucasian has rarely immigrated. But in these extensive regions exists a possible source of great wealth, and there is no doubt whatever that temperate and sensible men, possessed of some capital, could not only live in excellent health, but could also obtain a most satisfactory return from the cultivation of the soil. In addition to this, the larger portion of the cultivated population lives high in the mountains, and therefore distant from the seacoast. This distance inevitably develops a certain provincialism and lack of interest in the outside world and in internal progress. The result is that manufactures do not, and can not, flourish until Colombia has such improved methods of communication with other nations as will bring her people in free and frequent intercourse with the general progressive instincts and endeavors of the times.

INTERCONTINENTAL RAILROAD.

The solution of this and other difficulties with which the Colombian people have to contend in their struggle for improvement and progress lies largely in the success of the intercontinental railroad scheme. While it is not generally held that such a railroad should not traverse the Central American republics and the Isthmus of Panama, there are those who think it would be far better to begin the road at some Colombian port—Cartagena, Barranquilla, or Santa Martha—and to operate the same in connection with lines of steamers to New York and New Orleans.

In addition to this, the railroad communication from Mexico might well be extended south across the Central American republics to the Isthmus of Panama, and thence by the Pacific coast to connect with the main line from the Caribbean Sea.

Beginning at either one of the Colombian ports above referred to the intercontinental line would probably follow, more or less, the Magdalena River and cross the chain of the Andes by the pass which is said to exist near its head waters.

Among the many results beneficial to Colombia which would follow the construction and operation of this line would undoubtedly be included the establishment of numerous manufactories, the machinery for which could hardly be transported here with profit under existing conditions.

MULE TRAINS.

The only present method of carrying merchandise to and from the coast is by means of the great rivers. Of these, the Magdalena is the most important and has the best service. Others are navigable for certain distances by boats of light draft, but from the lands and forests of all might easily be obtained an abundance of many articles of market value, as, for instance, vegetable ivory, the vanilla bean, rubber, tolu balsam, gums, and a great variety of precious woods. Upon the banks of the Atrato and Sinu rivers is found a most fertile and productive soil. An abundant rainfall insures satisfactory harvests of corn, sugar cane, pineapples, bananas, oranges, cacao, vanilla beans, rubber, and numerous other products, the proper cultivation of which would yield a most handsome revenue to the people. To these two rivers and the lands adjoining I invite the attention of our capitalists.

With the exception of river traffic and nine short lines of railroads, the whole commerce of the country is carried on by means of mules.

AGRICULTURE.

Coffee and quinine.—Passing to the agricultural industry, it may be said that coffee forms the chief article of export and has served to counterbalance in a great degree the serious loss occasioned during the last 12 years by the decrease in the exportation of quinine bark. The latter exists in vast quantities and of the best quality, but its recent cultivation in India has rendered it impossible for the Colombian article to compete with the Indian, because of the vast relative expense of transportation to the coast. The principal coffee centers are Cundinamarca, Santander, and Tolima.

Cacao.—Cacao is also raised and exported in large quantities from Tolima, Santander, and Cauca, but the quantity ought to be increased tenfold. There is an abundance of waste lands especially adapted to its cultivation. Possibly the most favorable region is in the magnificent and fertile section of the department of Cauca. But the increase of production will undoubtedly await the construction of railroads.

Bananas.—Bananas ought to form an important article of export. Even at the prospect of the speedy construction of the Santa Martha Railroad large plantations have been established on its proposed line. No better lands can be found in the world for the cultivation of the banana than in Colombia. At present few or none are exported, except from the Isthmus of Panama.

Cotton.—The country is adapted to the cultivation of cotton, and, to a certain extent, it is even now grown; but the native fiber is short and unsatisfactory and the exportation inconsiderable. However, it can not be doubted that long-fiber cotton would flourish in numerous sections and might easily be made a great source of revenue.

Tobacco—The tobacco of the country is magnificent. The most satisfactory is said to be that of Ambalema; but it can hardly be questioned that most satisfactory crops could be raised in numerous sections of the Republic. Large quantities are now exported to Germany, and a little care, combined with means of transportation, ought to triple the harvest.

Cereals.—Wheat, barley, and potatoes are cultivated, but not in sufficient quantities for home consumption. It is difficult to understand why they are not articles of export, instead of articles of import, since the soil is admirably adapted to their demands.

Vegetables.—All kinds of vegetables flourish and only need cultivation to render them equal to those of other nations. This lack induces their importation in cans from foreign countries.

Cattle.—Cattle-raising is an almost universal industry, but is most extensive in Bolivar and Magdalena. The hides and horns go mostly to the United States.

Hogs.—Hog-raising is so small an industry that American lard competes with the native article even in Bogota, 700 miles from the coast.

Sheep.—Sheep-raising flourishes to a limited extent in the heights of Cundinamarca and Boyacá, but is only sufficient for the necessities of their people. In other sections the sheep is rarely seen, and in the hot regions never.

Horses and mules.—Horse and mule raising is, of course, somewhat extensive, but is conducted on a very small scale, so far as individuals are concerned. The latter animal, so useful and necessary, always commands a high, and sometimes a seemingly unreasonable, price.

Foreign stock.—Foreign stock has been introduced to a limited extent, especially in Cundinamarca and Antioquia; but the far greater part of the cattle and horses are of native stock, many of which compete most favorably with the imported.

Fisheries.—The fishing industry is of small importance and only exists at the coast and on the great rivers. There are no fish, properly speaking, in the rivers and lakes of the plains of Bogota, and its lack constitutes one of the most serious inconveniences for the foreigner. My predecessor extended to this Government the good offices of the Department for stocking the lakes and streams of this section, but, for some reason, no practical arrangement was ever effected.

Wild animals.—The intertropical regions abound in wild animals, but the tropical forests, with their undesirable climates and almost impassable vegetation, have conspired to render the chase an unprofitable industry. But in higher and more benignant regions the chase constitutes a profitable employment for many people.

In a word, it may be said that, as manufacturing industries do not exist to any great extent, so agricultural industries are in a very backward and unsatisfactory condition; but, as these ought to constitute the life and the progress of the country, so I believe they will come to do so when ways of communication have been established. From such ways will come not only cheap freights, but an influx of a most desirable foreign element, which will tend to produce a scientific cultivation of the soil now tilled by the most primitive and unproductive methods.

COLOMBIA AT THE CHICAGO EXPOSITION.

Perhaps no immediate act would be of more benefit to Colombia than a full and varied exhibit of her vast forest and other resources at the Chicago exposition, and it is a great satisfaction to believe that this progressive and patriotic people fully realize the importance of the opportunity now presented.

IMPORTS FROM THE UNITED STATES.

The articles which we ought to import to this country under present conditions are iron and steel and their manufactures, especially machinery and tools; breadstuffs, oils, drugs and medicines, California wines, beer, matches, lard, butter, sugar, paints, tar and pitch, paper, etc.

My former reports will show our percentages in all these articles, which should be largely increased. Even with the Colombian tariff rates, American flour, lard, butter, sugar, and beer are found in large quantities upon the *sabana* of Bogota, and with some concessions in such rates these and all the above-named articles ought to compete on most satisfactory terms with those of other nations.

Of textile fabrics we import here but few—not 2 per cent. It is not impossible that we might, by the manufacture of an inferior quality of goods, compete with England, notwithstanding the present Colombian tariff rates. But if we could secure a reasonable concession as to these dues, it can be hardly doubted that we could give the Colombians better articles than they now buy for the same or less prices. Of course, much will depend upon the compliance by our manufacturers and sellers with the trade conditions existing here, which have been explained in former dispatches.

TEA CULTURE.

Among articles not now cultivated in Colombia may be mentioned tea. Competent authorities declare certain sections of the Republic to be peculiarly well adapted for the development of this plant. If this should prove, on experiment, to be the case, an important industry might be developed, and the United States could obtain a tea whose aroma would not be subject to deterioration from long sea voyages. I believe that this question should be seriously investigated, and the result might be the establishment of an industry which would compete with that of India and China and cause a most desirable reduction in the price of this now prime necessity.

Numerous other articles might be most advantageously produced here if once modern methods of cultivation were introduced and understood.

MINES OF COLOMBIA.

It is hardly necessary to speak of the mining interests and possibilities of a country which is universally acknowledged to be one of the richest on the globe. Colombian soil shelters unknown quantities of gold, silver, iron, copper, and lead. Emeralds, amethysts, rubies, jasper, and jet are also found. The salt mines are wonderful. Coal is found in extensive deposits, while sulphur, lime, and many other useful articles of commerce abound.

The working of these mines of wealth is retarded, and often made impossible, by their distance from the sea. From lack of roads and railroads the transportation of the proper machinery is always difficult, expensive, and often impossible.

It has been said that the best evidence of a nation's progress consists in the quantity of iron, coal, and sulphuric acid it consumes. This can hardly be true of Colombia. It consumes but little of these articles, relatively speaking; but the reason lies, not in its lack of progressive spirit, but rather in the impossibility of paying the enormous freights for importation of the articles mentioned and of the machinery for their production. Properly speaking, there is only one foundry in Colombia, and that is situated upon the *sabana* of Bogota, more than 600 miles from the sea, and, by reason of lack of roads, can only supply a limited area. In the rest of the country all iron must be imported.

Coal is found in all parts of Colombia and is easily extracted, but at present only in sufficient quantities for forges. There are magnificent coal mines in Magdalena, near the Caribbean coast. By a reasonable outlay these mines ought to produce an abundant supply of coal for ocean steamers, which now often depend for their fuel upon deposits in the Antilles brought across the sea for that purpose.

Sulphuric acid is imported and sold at fabulous prices for medicinal and industrial purposes.

The best and most thoroughly equipped gold and silver mining establishments are in Antioquia and Tolima. The largest part belong to the English. The greatest difficulty encountered by the mining interests is the lack of roads. An idea of the obstacles found may be obtained from the fact that only a year ago there were delayed in Honda, not over 60 miles from their destination, 28,000 bales of foreign merchandise which could not be moved for lack of means of transportation. At that time the freight for 250 pounds of cargo reached the astonishing sum of $15 in gold, or $30 in the money of the country.

SUGAR PRODUCTION.

Upon regarding the foregoing, I find that no mention has been made of the production of sugar, for which vast regions of the country are admirably adapted. There are no statistics to show the amount now raised; but it is not sufficient to supply the necessities of the people, since sugar is not exported, but, on the contrary, forms a considerable article of import from the United States.

JOHN T. ABBOTT,
Minister.

UNITED STATES LEGATION,
Bogota, April 3, 1891.

FRENCH WINE PRODUCT OF 1890.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

The annual report of the wine crop in France for the year 1890 has recently been issued by the minister of finance, whose résumé, as usual, is framed from the statistics furnished by the general director of taxation.

The returns gathered and published by this executive comprise the total production of wine in France and its colonies, together with the number of acres planted with vines and the intrinsic value of the wine in its natural state.

From this official estimate it is apparent that the product, in point of quantity, is greater than for several years past (the year 1888 excepted), being, in fact, as much as one-seventh part in excess of the crop of 1889.

In quality it is presumed to be of ordinary excellence, though the quality of red wine is, as a rule, determined only after it has been 2 years within the cask. As near as can be approximately ascertained, however, the value of the crop of 1890 amounts to fully $89,764,000, an increase of $20,000,000 over 1889.

The land covered by vineyards is estimated at 4,541,360 acres. In 1889 4,544,467 acres of land were given over to the culture of the grape; hence we find a decrease of 1,107 acres. Journals devoted to the interest of the wine and spirit trade attribute this not altogether insignificant decrease to errors contained in the returns presented to the minister; but more careful investigations indicate that mildew has destroyed large tracts of vineyard, aided and abetted in its ravages by the phylloxera, a little insect to which German bacteriologists may eventually direct their attention to the end of finding some chemical injunction wherewith to stop him in his devastating work.

The quantity of wine made during the vintage of 1890 was 603,426,160 gallons, the product being equal to about 133 gallons per acre or a fraction less. Precisely how the product of last year compares with that of previous ones can be judged from the accompanying table:

Year.	Quantity.	Year.	Quantity.
	Gallons.		*Gallons.*
1880	652,970,670	1885	628,080,683
1881	732,587,930	1886	551,644,223
1882	679,800,860	1887	535,575,581
1883	792,998,290	1888	662,548,344
1884	735,529,810	1889	511,150,819

The increase in the crop of 1890, according to the statements of the official summary, has shown itself in forty-five districts, though principally in the lower Alpes-Maritimes Aveyron, Savoy, Var, Rhône, Drôme, Vienne, Allier, Loire-Inférieure, Isère, Puy-de-Dôme, Pyrénées-Orientales, Loire, Haute-Savoie, Bouches-du-Rhône, Gard, Vendée, Ain, Hérault, Aude, and Saône-et-Loire. On the other hand, there was a decrease in thirty-one districts, more apparent in Morbihan, Vosges, Haute-Marne, Corèze, Meurthe-et-Moselle, Eure-et-Loir, Aube, Sarthe, Gironde, and Haute-Saône.

In far greater quantity than heretofore have growers employed low-tariff sugar in the manufacture of the lower-class wines. The quantity of sugar declared for this purpose, which, during the first 10 months of 1889, amounted to 42,900,000 pounds, was, during the same period in 1890, 72,380,000 pounds, an increase of 29,480,000 pounds.

Of wine made from dry grapes, or the residuum of the press, to which I called attention in my report of the vintage a year ago, great quantities have been manufactured. The figures show, for wine made from skins and pulp after pressing, 42,847,505 gallons; wine made from dried grapes, 94,485,628 gallons.

Importations of wine into France during 1890 for blending and other purposes show a slight increase over the preceding year. The comparison, quantities, and value are shown in the following table:

Table showing the importation of wines into France.

Whence imported.	1888.	1889.	1890.
	Gallons.	*Gallons.*	*Gallons.*
Spain	170,709,912	151,525,974	168,515,140
Algeria	26,910,857	34,792,782	43,118,272
Italy	24,990,837	2,233,533	436,040
Portugal	24,459,009	18,757,054	4,302,800
Other countries	17,317,424	17,191,725	15,136,636
Total	264,388,039	224,511,068	231,528,888
Estimated value	$81,142,252	$69,107,921	$71,057,594

From Spain, it will be observed, is imported the usual quantity. Italy, on account of the expiration of a commercial treaty for a long time existing between France and herself, now sends very little wine, or, in fact, merchandise of any description, to the last-named country. In the importations from Portugal there is a decided falling off, while the product in France's most important wine-growing colony shows a steady upward tendency.

Viticulture in Algeria is decidedly on the increase, though the quality of its wines is inferior. They are earthy, heavy, and alcoholic. Time alone can remedy these defects. There are at the present moment 253,394 acres of vineyards under cultivation in Algeria, the same having produced in 1890 61,939,000 gallons of wine, an average of 244.43 gallons per acre.

Returning to France, we find that in the department of the Gironde, in which district are produced all the clarets and white wines known to, or drank in, America, the crop of 1890 falls far below that of 1888 and 1889, though it compares favorably with the average vintages of past years. The following summary is sufficient to demonstrate this fact:

Year.	Quantity.	Year.	Quantity.
	Gallons.		*Gallons.*
1880	36,541,772	1887	25,077,467
1881	28,084,760	1888	58,690,435
1882	24,519,140	1889	47,288,837
1883	41,104,973	1890	35,082,641
1884	29.453,427	Total	377,928,600
1885	23,683,992		
1886	24,401,156		

In 1888 there were 345,619 acres in the Gironde devoted to the vine; in 1889, 346,410 acres; and in 1890, but 339,084 acres. These figures are more than evidence of the deadly work wrought by mildew and phylloxera. How much land will, in the next few years, be successfully replanted with new vines remains to be seen. Growers are apparently hopeful, and the general feeling in the wine trade is a healthy one.

The following summary gives the extent of the crops in this consular district for 1889 and 1890, the average yields per acre, quantity of wine produced during 1889 and 1890, and the average crops for the past 10 years:

Districts.	Total yield.		Average yield for last 10 years.	Extent of vineyards.		Average yield per acre.	
	1889.	1890.		1889.	1890.	1889.	1890.
	Gallons.	*Gallons.*	*Gallons.*	*Acres.*	*Acres.*	*Gallons.*	*Gallons.*
Gironde	47,288,837	35,082,641	34,284,595	346,410	339,084	136.51	103.46
Lot-et-Garonne	4,952,206	5,080,590	8,716,840	140,853	140,182	35.15	36.24
Basses-Pyrénées	2,855,643	3,185,287	3,087,320	61,316	48,231	46.56	66.04
Hautes-Pyrénées	1,469,256	2,018,087	3,082,940	40,190	40,216	36.55	50.18
Landes	6,191,171	6,048,360	4,372,792	45,606	45,233	135.75	111.6

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, April 30, 1891.

LABOR MANIFESTATION IN THE DISTRICT OF ROUBAIX.

REPORT BY COMMERCIAL AGENT ATWELL.

Prior to May 1 there was great apprehension among the manufacturers of Roubaix and in other commercial towns in this district that the labor manifestation would result in serious loss to mill and property owners, as on May 1, 1890, there were labor riots, suppressed only by recourse to military force. In anticipation of trouble, two squadrons of cavalry and six companies of infantry from Cambrai and the Twenty-first regiment of dragoons were ordered to Roubaix, under command of General Bidot, the military quarters being established at the city hall. The Bank of France, post-office, and gas works were also put under military guard. On April 30 the mayor of Roubaix issued a manifesto calling the attention of the public to acts forbidding the collection of crowds in such numbers as to impede free circulation in the streets. Toward noon on May 1 more than 3,000 workmen marched down the main street toward the city hall, having at their head a deputation of 30 delegates to present their petition to the mayor. This petition, signed by a syndicate representing more than 10,000 workmen, consists of an appeal (1) for the reduction of the working day to 8 hours, (2) the recognition of workmen's associations by the civil authorities, (3) abolition of the tax on consumable articles and its substitution by a graded tax on capital, (4) the creation of a public fund for pensioning aged and incapacitated working people. These delegates were received by the mayor, and then asked that their petition should be called to the attention of the proper authorities, saying that, as an immediate reduction to 8 hours might be too subversive of the existing order, they would be contented for a time with 10 hours, and pointed to England as showing better production, combined with increased health and knowledge among her workmen, as a result of a more liberal policy. Upon receiving the promise of the mayor that their petition would be presented as requested, the delegates retired and the crowd dispersed.

At Sille the situation was quiet, as well as in other towns in the north, with the exception of Fourmies, where there are large spinning works. A rather ill-advised manifesto from a combined association of manufacturers, published on April 30, and the presence of the military on the following day so excited the workmen that an altercation took place between the populace and the soldiers, in which stones were thrown by the former and shots fired by the latter. More than 20 were numbered among the killed and wounded. The discontent of the people in this district is caused by the failure of the manufacturers to observe the laws regulating labor and the low rate of wages. A decree of September 9, 1848, limits the work of adults to 12 hours. Prior to that date 14 and 16 hours constituted a working day. As this decree was not generally observed, a prefectorial circular was issued in October, 1886, impressing upon manufacturers the necessity of compliance with the established law. Notwithstanding this, complaints have been received—and their number has greatly multiplied recently—that workmen in Roubaix repair to the factories at 5:30 a. m. and are released only at 8:45 p. m., having but 15 minutes at noon for lunch and again 15 minutes at 5 o'clock. For this day an expert spinner can not hope to earn more than 96½ cents (American value), the average spinner receiving 69 cents. Weavers are paid by weight, and dyers receive 25 centimes, or a little less than 5 American cents an hour, their wages being lower than those of workmen employed in the manufacture of the fabric.

Although all members of a family above the age of 12 work, when possible, in factories, their combined wages barely suffice to feed and clothe them in comfort.

A house consisting of one small room with an attic above may be had for $1.55 per month; at $3.10 there are houses with two rooms on the ground floor, two rooms above, attic and cellar; at $5.40 a more respectable house with two rooms on ground floor, four bedrooms, attic and cellar may be obtained.

Flour is 5 cents (American value) per pound; bread used by the working classes, 3 cents per pound; poor and ordinary cuts of beef and mutton average 13 and 15 cents per pound, respectively, while good cuts sell at 20; coffee, containing some chickory, 50 cents per pound; butter, 21 and 24 cents per pound; poultry, from 40 cents to $1; and in seasons like the present, succeeding a rigorous winter, fowls of any size command $1.60 and $1.80 each, placing them beyond the reach of even moderate incomes. Ham is sold at 60 cents per pound (American value), and is never on the table of the workman.

As the population is almost exclusively industrial, there are but few garden farms around Roubaix, and all vegetables are dear, a good-sized cabbage commanding, at the present time, a trifle over 19 cents (American value). Potatoes sell for $1.16 per 100 kilogrammes.

A workman's first meal comprises bread and coffee, the midday meal a vegetable soup and a very small portion of boiled beef with beans; for the last meal bread is crumbed into buttermilk at 3 cents a quart (American value), and the whole thickened with a little flour and cooked into a gruel, unpalatable, but said to be not unwholesome.

Mill-owners admit that more liberal wages could be paid workmen and a good profit still be made on their goods, but no manufacturer holds himself ready to take the initiative, each one averring that he is ready to adopt any concession agreed upon by the whole body of manufacturers.

Workmen in this district now await the result of their last appeal, hoping that the moderation exercised by them recently while laboring under great privation may commend the justice of their demands to those toward whom they look for relief.

W. P. ATWELL,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Roubaix, May 9, 1891.

THE NICKEL MINES OF NEW CALEDONIA.

REPORT BY VICE-COMMERCIAL AGENT Le MESCAM, OF NOUMÉA.

It has come to my knowledge that several European governments have been making inquiries here concerning the production of nickel ore in this country, and I deem it my duty to make a report on the subject to the Department.

The area of New Caledonia is 2,000,000 square kilometres, and it includes about 800,000 square kilometres of nickel-producing land. About 80,000 square kilometres have already been granted to, or applied for by, divers mining companies, but about 20,000 square kilometres of the land are being actually worked, principally in districts easily reached by sea or rivers. Some of the best claims are not yet worked on account of the difficulties resulting from the absence of roads.

The composition of the nickel ore is hydrated silicate of nickel and magnesia, without any traces of arsenic. It contains from 8 to 10 per cent. of metal, some samples containing up to 16 per cent. of pure nickel.

The value of 8 per cent. ore at shipping places is now 100 francs ($19.03) per ton,* but the price will probably augment. The mines are reported to be inexhaustible.

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* The ton used in this report is equal to 1,000 kilogrammes, or 2,240 pounds.

Besides at Nouméa, ships can load at several other ports on each of the coasts of the colony, but foreign vessels have to pay coasting duties of 150 francs per registered ton at any other port except Nouméa.

Vessels coming to Nouméa with loads of lumber from the Pacific coast could get return cargoes of ore and save an expensive voyage to Australian ports. The exportation of ore from New Caledonia during the year 1890 has been: Nickel ore, 5,000 tons; chromate of iron, 1,500 tons; cobalt, 700 tons; gold quartz, 10 tons; and of smaller metals—nickel, 1.50 tons; silver lead, 3.50 tons; copper, 1.32 tons.

The exportation will greatly augment henceforth, for large orders have been received by the Compagnie le Nickel for ore and metal. The Creusot foundries of France alone have ordered 100,000 tons of nickel ore.

Important foundries and furnaces are now being erected in the vicinity of Nouméa for the treatment of nickel ore, and the prospects seem to indicate that at a date not far off this colony will greatly surpass any country in the world in richness and importance of the nickel industry.

L. LE MESCAM,
Vice-Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Nouméa, February 13, 1891.

LAND LAWS OF THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

PUBLIC LANDS.

All the unsold lands in the different provinces are the property of the respective provinces and subject to sale under such regulations and on such terms as the laws of each one provide. The only actual national lands are those which are embraced in the several territories of the nation, to wit, the Pampa, the Chaco, the Missiones, and Patagonia, and none of this public domain can be disposed of without previous measurement and survey. This is regulated under the law of October 24, 1882, which provides that all surveys shall be made in successive zones, and in ordering surveys the Government is required to select—

(1) Those lands which are contiguous to zones which have already been opened to settlement, either by the provinces or by the nation.

(2) Those lands which are situated on the seacoast or banks of rivers, or are adjacent to ports or roads and ways of communication already opened.

SYSTEM OF SURVEY.

The system of measurement in the Pampa and Patagonia is as follows:

(1) Sections of 1,000,000 hectares (400 leagues of 2,500 hectares each) shall be marked off.

(2) Each of these sections shall be divided into four quarters of 250,000 hectares (100 leagues of 2,500 hectares each), and each one of these shall be subdivided into twenty-five lots of 10,000 hectares (4 leagues) each.

(3) These lots of 10,000 hectares shall be in the form of a square.

PLOTS AND DESCRIPTIVE FIELD NOTES.

It is further provided that the engineers and surveyors commissioned to make these surveys must be named personally by the Executive, and in no case shall the same parties be engaged to survey more than one section. They shall proceed to do their work in accordance with such instructions as they shall receive from the department of engineers, and the reports they make shall be descriptive, indicating the areas most appropriate for agriculture or for the location of towns and colonies, and giving the reasons for their opinions. Upon the receipt of these reports, the Executive shall decide the areas which, for any reason, shall be excluded from public sale. In those sections which extend into the cordilleras of the Andes there shall be made, in addition to the annotations above referred to, exact annotations of all mines, salt deposits, springs and water courses, the height above the level of the sea, and all other matters worthy to be mentioned in each section surveyed. These returns and field notes must be presented to the department of engineers for examination, and a duplicate also to the Executive. Thereupon the department of engineers shall designate the areas which, in their opinion, are to be set apart for pasturage, for agriculture, and for towns and colonies.

In regard to the territory of Missiones, its area shall be subdivided on a different basis. It is to be surveyed into sectiones of 10,000 hectares each, and each of these again subdivided into one hundred lots of 100 hectares each, and in the surveys shall be designated the parts appropriate for agriculture in the manner above stated.

When all these surveys and plats shall have been approved by the Executive, they are then to be lithographed and printed for distribution.

SALE OF PASTORAL LANDS.

In the sale of lands designated for pastoral purposes the law provides as follows:

(1) All sales must be made at public auction, and it is not allowed to include in one auction an area of more than 250,000 hectares.

(2) The area or extent of land annually sold shall not exceed 2,500,000 hectares, or, say, 1,000 leagues of 2,500 hectares each.

(3) The minimum price, as a base for the auction, in the territories of the Pampa and Patagonia is fixed at 20 cents per hectare, or $500 per league, and in the territory of the Chaco at 30 cents per hectare, or $750 per league.

(4) The auction must be advertised not less than 90 days before the day of sale in the capital of the Republic and in the capitals of the several provinces.

(5) The base for each sale shall be 2,500 hectares, or a square of 5,000 metres each side.

(6) The purchaser has the privilege of acquiring not more than 40,000 hectares, or four contiguous lots.

(7) These tracts can only be acquired by those who obligate themselves to settle them, expending within the first 2 years not less than 500 pesos for each lot of 4 leagues in houses and stock.

(8) The payments must be made as follows: One-sixth part cash in hand and the balance in five equal annual payments, the purchasers signing notes for the deferred payments.

(9) If these notes are not paid at maturity, they may be renewed for 1 year at 6 per cent. interest; if then they or any of them are not paid, or if the obligation to settle the lands has not been complied with, the chief of the land office will proceed to sell the same for account of the purchaser at public auction.

(10) The payment of any or all the notes may be anticipated at a discount of 6 per cent.

(11) The auctions of all public lands must take place in the national land office between 12 and 4 o'clock of the days advertised, and one offer is sufficient, provided it is not less than the price fixed as the base of the sale. And the chief of the national land office, assisted by a Government notary, shall preside at all auctions.

(12) For each tract sold the land office gives a certificate on stamped paper, signed by the chief and countersigned by the president of the treasury.

(13) The national land office is required to keep a register, in which shall be noted all lots sold, with a full description of the same, the name of the purchaser, the date of the purchase, etc.

(14) When all the conditions and requirements of the law have been complied with and the entire amount of the purchase money paid, the Executive shall order the Government notary to complete and deliver deeds of transfer to the purchaser.

SALE OF AGRICULTURAL LANDS.

The entire territory of Missiones and such areas as are set apart for agriculture in the territories of the Pampa, Chaco, and Patagonia are designated as farming lands (*tierras de pan*), and they are sold on the following terms:

(1) The surveys, which the department of engineers is required to make, must first be made public and the plans distributed throughout the Republic.

(2) Any person or company can purchase not less than 25 hectares nor more than four lots, say 400 hectares, in the same section.

(3) The sales must be made by application or petition written before the chief of the public land office, who must enter in a special register the day and hour at which it was presented, with a description of the tract solicited. The entry must be signed by the applicant or his attorney.

(4) The price of farming lands in the Missiones and the Chaco is fixed at 2 pesos (or dollars) per hectare and in the Pampa and Patagonia at 1½ pesos.

(5) The payments must be as follows: One-fifth part cash and the balance in four equal annual payments.

(6) The purchasers must sign notes for the deferred payments; but these notes can be discounted and paid before maturity, as in the case of pastoral lands.

(7) The chief of the land office shall deliver to the purchaser a certificate or stamped paper, signed by the said chief and countersigned by the president of the treasury, and this certificate is not transferable.

(8) These farming lands can only be acquired by those who obligate themselves to cultivate, within the 3 following years, at least the fifth part of each tract.

(9) Purchasers who fail to comply with the obligations of their contracts shall, when their notes fall due, be proceeded with, as in the case of pastoral lands.

(10) When all the conditions of the sale have been complied with by the purchaser and the full price of the land paid, the Government notary shall, on the order of the Executive, complete and deliver the deeds of transfer.

GENERAL REGULATIONS.

(1) In all cases of the sale of Government lands the purchaser is not allowed to sell his tract to the adjoining owner until he has fully completed the purchase.

(2) Neither purchasers nor their assigns are permitted to make any opposition to the opening of roads or highways over their lands when the increase of population shall require this,

nor to the running of railways across their lands; nor have they any right to indemnity for ground which may be taken for such purposes, but they have such right in the case of buildings or improvements.

(3) The Government is not allowed to sell lands on which there are deposits of salt.

(4) Lots designated for towns and colonies shall be divided up and sold in accordance with the law for such cases made and provided.

(5) Purchasers of public lands are required to pay the taxes assessed upon the same from the year after their purchase, even though they have not completed the payments.

The foregoing is quite a full résumé of the laws in reference to the sale of the public lands of the Argentine Republic.

EXTENT AND CHARACTER OF PUBLIC LANDS.

In regard to the extent and character of the unoccupied Government territory, it is rather a difficult matter to give exact or even approximate figures. I can only repeat the following table, heretofore compiled by me, which gives the superficial area of the different provinces and territories and the amount of land now estimated to be under cultivation:

Table showing the total area and the area under cultivation in the Argentine Republic.

Provinces and territories.	Area under cultivation.	Total area.
Provinces:	*Hectares.*	*Hectares.*
Buenos Ayres	868,658	31,123,700
Santa Fé	536,537	13,158,200
Entre Rios	136,151	7,545,700
Corrientes	46,631	8,114,800
Cordova	234,305	17,476,700
San Luis	79,630	7,591,700
Mendoza	88,546	16,081,300
San Juan	79,630	9,750,500
Rioja	22,217	8,903,000
Catamarca	44,618	9,064,400
Santiago del Estero	120,400	10,335,500
Tucuman	35,943	2,419,900
Salta	38,575	12,826,600
Jujuy	18,994	4,528,600
Territories:		
Missiones	4,606	5,395,400
Formosa	600	11,567,100
Chaco	3,623	12,483,400
Pampa	5,964	14,491,900
Neuquen	....	10,968,100
Rio Negro	1,291	21,216,300
Santa Cruz	....	27,691,000
Chubut	....	24,733,100
Tierra del Fuego	....	2,104,800
Total	2,359,958	289,429,841

Of the lands not under cultivation or pasturage in the different provinces, it is not possible for me to say how much is in the hands of purchasers and how much is still owned by the provinces. There is no doubt, however, that the greater part has already been sold to private individuals or speculators, and that the character of what remains is not generally adapted to farming purposes.

Of the territories designated above, it is necessary to explain that Formosa is a part of the Chaco, and that Neuquen, Rio Negro, Santa Cruz, Chubut, and Terra del Fuego comprise what has heretofore gone under the name of Patagonia. Of these territorial areas the greater part is still in the hands of the National Government. The lands of the Chaco, Formosa, Missiones, and the Pampa are, to a large extent, suitable for farming, while it is only in certain localities that the territories of Patagonia are suitable either for farming or pastoral purposes, a very large proportion of that region being without water and without grass, and hence almost valueless for any purpose.

MISCELLANEOUS.

There are no preëmption or homestead laws in the Argentine Republic. Except where such lands are specially designated and excepted on the plats, there is no distinction in the sale or settlement of mining, timber, mineral, or agricultural lands. There is no distinction made in the public land laws between citizens and aliens.

Whatever measures have heretofore been adopted by this Government to encourage immigration, they have, since the present crisis set in, been entirely annulled on account of the straitened condition of the public finances. During the days of free passages there was a tremendous spurt in the immigration to this country, the number of arrivals in 1889 amounting to upwards of 250,000; but, owing to the general collapse which now exists in all departments of trade, labor, and business, the efflux during the last year has been greater than the influx, and now everybody that can of those who came here to make sudden fortunes is leaving the country. Nearly three-fourths of the immigrants to the Argentine Republic in past years have come from Italy, the rest from France, Spain, and the countries of northern Europe. As a general thing, the character of the arrivals from the regions of the Mediterranean Sea is good. Indeed, to them any change from the overcrowded centers from which they depart is for the better, and, with their well-known habits of economy and thrift and utter indifference to disagreeable surroundings, they soon emerge from their utter poverty and take better positions in every department of handicraft and labor, and, at once accommodating themselves in language and habits to the natives of the country, they soon assimilate and become absorbed. With the people of the United States and Great Britain, however, it is different. The difference of language and difference of customs are almost fatal to any improvement in their condition, and, unless they come with money, which in any country will command success, they soon become discouraged and fail to get along. To Americans especially I say, let well enough alone, and by all means do not think of coming to the Argentine Republic in any hope of improving your condition.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, April 27, 1891.

NATIONAL AID TO ART.

REPORT BY CONSUL LOOMIS, OF ST. ETIENNE.

The French Government is not only actually engaged in the development and fostering of the fine arts on its own account, but it is making a series of studies on the subject of the policy of other nations in respect to the encouragement of painting, sculpture, music, and the drama.

M. O. Fedière, for a long time attached to the Luxembourg Museum, in Paris, was recently dispatched by the French minister of public instruction to make a careful study of the question of Government aid to art in Great Britain.

His official report is an interesting and seemingly accurate one, and I have appended a condensed translation of it.

M. Fedière explains in detail the British system of fostering the fine arts and indicates some of the salient points wherein it differs from the administration of the fine arts in France.

FRANCIS B. LOOMIS,
Consul.

UNITED STATES CONSULATE,
St. Etienne, May 15, 1891.

THE FINE ARTS IN GREAT BRITAIN.

[Inclosure in Consul Loomis's report.—Translation.]

It is difficult, if not impossible, to establish a parallel between the English and French system of encouraging the fine arts by means of national aid. The French system, established immediately after the revolution, possesses a homogeneity and freedom vainly sought for in England, where the fine arts are subjected to the restrictions of certain traditions, some of which are obsolete, being, indeed, of mediæval origin. Furthermore, whereas in France the State claims all the institutions, the English Government abandons willingly everything that might be left to private enterprise. Consequently, in England there exists no minister of fine arts, nor a minister of public instruction, properly so called. This does not mean, however, that the English Government takes no interest in these institutions; but, on the contrary, art and education are the objects of special solicitude, and their fostering gives employment to a large number of persons. In order to control in a measure the development of the fine arts, since there is no special ministerial department, the plan of placing them under the control of a private committee is adopted. In this way there exists a committee forming a court of appeal called "the judicial committee of the private council," another of commerce styled "board of trade," and, finally, a committee which presides over education and the fine arts, to which the name of "committee of council on education" is given. The head of these committees is, officially, the president, but the real head is the vice president of the council. All questions relating to education and the fine arts are referred to him. He is assisted by a central administration, sitting permanently in London. This administration is subdivided into two great sections or departments, of which one presides over education and the other over sciences and arts. This latter is called "the science and art department." This department has under its direction the elementary schools of sciences and art, the mining and geological schools, the South Kensington Museum, and certain other establishments which owe their existence to the Government. But the British Museum and the National Gallery enjoy a certain autonomy, and are controlled by special committees.

The rôle of the Government in respect to these institutions is limited to grants of money, which, however, are very insufficient. The expenses provided for by the budget of 1890-'91 amount to £474,896, distributed as follows:

Central administration	£29,059
Salary of professors of sciences	113,072
Salary of professors of arts	47,432
Expenses common to both departments	60,907
Grants to students	58,912
Grants to museums	86,714
Grants to schools of science and art	78,800
Total	474,896

In this sum the amounts allotted to the British Museum and the National Gallery are not included, as well as to some other independent institutions, and consequently these subsidies may be added:

British Museum	£155,145
National Gallery	14,594
Gallery of National Portraits	2,209
Grant to Royal Academy of Music	500
Grant to Irish Academy	500
Total	173,348

The head of the department is an officer who bears the title of secretary and whose salary amounts to £1,500 a year. The director of the arts division has £925, while there are 44 clerks receiving salaries amounting in the aggregate to £8,186.

This department regulates questions relative to (1) the teaching of fine arts (schools of fine arts, Roman school, school of design, etc.); (2) exhibition manufactories, purchase of pictures for the National Gallery, grants to theaters, etc.; (3) museums and historical monuments.

SCHOOL OF FINE ARTS.

The State, except in the case of primary artistic education, leaves to private initiative the care of forming painters, sculptors, and musicians, and the only school is that of the Royal Academy, which is a private society.

The State gives no grants to theaters, nor does it organize any artistic exhibitions; but the importance of those undertaken by private societies each year has been such as to deserve the term of national institutions, the principal of which are the Royal Academy Exhibition, the Royal Society of Water Colors, the Institute of Water Colors, the British Society of Arts.

Each of these societies has two exhibitions yearly—one in winter, the other in summer. The society bears the expenses of its own exhibitions and receives a percentage on every picture sold. Besides these societies, there are commercial societies which organize with a good deal of success annual exhibitions, such as the Grosvenor Gallery and the New Gallery. Both of these societies have rendered good services to art in allowing artists of slight fame to expose their works.

None of these exhibitions give prizes, and the State does not buy the productions of living artists.

The Royal Academy possesses a fund for the purchase of modern pictures. This fund was placed at its disposal by the celebrated sculptor Chantrey, who in dying decided that his fortune, exceeding £100,000, should go to the academy after the decease of his widow, in order to buy each year a picture from an English or foreign artist, provided that the said picture was executed in England.

PRESERVATION OF WORKS OF ART.

In the case of museums, England need not be jealous of other countries. The National Gallery, the British Museum, and the South Kensington Museum are too well known to require any comment of praise.

The British Museum.—The British Museum dates from the second half of the last century. About that time a doctor, Sir Henry Sloane, lived in London, and at his death he bequeathed to the State a rare collection of books, curiosities of a varied nature, and a whole roomful of natural history. He died in 1753, and the State accepted the gift, and Parliament passed an act authorizing the acquisition of this collection, as well as that of the manuscripts formed by Robert Halley and the library of Sir John Cotton.

A national collection was thus at once formed, but a place to put it in was required. A second time Parliament was appealed to, with the result that a lottery was organized to defray the expenses of the site of the present museum. From this moment gifts flowed in and legacies were left, so that in 1843 the museum had to be enlarged to its present proportions. The British Museum is divided into the following departments: (1) books, (2) plans and charts, (3) manuscripts, (4) oriental manuscripts, (5) designs and impressions, (6) Egyptian and Assyrian antiquities, (7) Roman and Grecian antiquities, (8) British and middle-age antiquities, (9) coins, medals, and natural history. The museum is administered by a committee of fifty trustees, of whom one is appointed by the Queen.

Royal Academy of Arts.—The Royal Academy was founded within the reign of George III, in 1768. In the month of November of that year a number of artists addressed a petition to the King, asking his support for the creation of an institution to encourage art and design. A month later the King approved the petition by founding the Royal Academy, which from that time has been administered with increasing success. Its aim is to give gratuitously tuition in painting, design, and architecture and to organize an annual exhibition in London. Its revenue is derived solely from these exhibitions, which are much patronized by the public.

The society is composed of forty academicians, who elect amongst themselves each year a committee of ten for the control of the institution. Each member must, within 6 months after his election, present to the academy one of his productions. The members form the jury for the admission or refusal of works to their exhibitions and distribute no prizes. The only privilege which the exhibitor enjoys is that of free entry to the exhibition and to the lectures at the school. For the public the admission fee is 1*s*.

The School of Art of the Royal Academy.—For the teaching of the fine arts properly called there is in England but one school, that of the Royal Academy. This school was founded in 1768, and has a class for the study of antique models, a preliminary class of painting, a high class of painting, a class for the study of the nude, a class of sculpture from living models, and a class of architecture. An art library is open to students, and each year a course of lectures is given by competent professors. During the first 3 years of study the students are obliged to follow these lectures.

Before being admitted to the school the candidate must furnish a specimen of his capabilities. The instruction given in the classes is absolutely gratuitous, the students being only asked to furnish what instruments they require.

The National Gallery.—The National Gallery was founded in 1824. In that year the Government bought, for the sum of £57,000, the collection of a rich banker, consisting of thirty-eight pictures by the old masters. This was the beginning of the superb museum so much valued to day. Two years later Sir G. Beaumont presented to the gallery fifteen pictures of great value. The example was rapidly followed by others, and soon funds were voted by the Government for the purchase of paintings, and, when these funds were insufficient, private persons came to the relief of the gallery. It was thus that a picture costing £55,000 desired for the gallery was obtained when the Government refused to offer more than £24,000. Three gentlemen promptly gave £10,000 each and the treasure was secured.

The National Gallery was at first situated in Pall Mall, but in 1828 the present building was constructed at a cost of £200,000 in Trafalgar Square.

The control of the gallery is in the hands of six trustees, who have under them a director with a salary of £1,000 a year, a secretary paid £875, and a staff of thirty-six curators and employés of different ranks.

The National Portrait Gallery.—This collection, which is installed in Bethnal Green, owes its origin to Lord Stanhope, who conceived the idea of assembling in one place the authentic portraits of the most distinguished persons of the century. Sovereigns, statesmen, generals, men of letters, and artists figure in this gallery. The number of portraits exceeds eight hundred and eighty, of which more than half were presented by private persons.

The South Kensington Museum.—This museum is one of the largest in the world. It is well organized and lends out to provincial schools many subjects of natural history or works of art.

Theaters and singing schools.—No theater in the United Kingdom receives a grant from the State, nor is there any conservatory of music. However, the Royal Academy of Music replaces advantageously a conservatory. It receives an annual grant from the Queen of £500. Students are required to pay £30 for the session of 9 months.

CONCLUSION.

Such is the information I was able to procure in prosecuting my inquiries, and by it it may be seen that the English employés are much better paid than our own (French).

The salaries for corresponding services are from 75 to 100 per cent. higher in England than in France. I find, also, that the English Government is powerfully seconded in its efforts by private subscriptions. It is to this latter source that England owes the most of its institutions of art, and it is to it that the country has recourse when a pecuniary effort is necessary. Another fact to be observed is that the administration of fine arts in England centers all its efforts in preserving works of art, paying but a secondary attention to education.

England gives facility to the art student to acquire the first notions of the subject, multiplies the models in the museums destined to form his tastes, but proceeds no further. The artist is obliged to shift for himself without the hope of receiving any decoration or pecuniary encouragement, which is the reverse of the system that obtains in France.

Trade at Tuxpan.—I have, in this report of the quarter ended March 31, 1891, to state that commerce is progressing favorably, the exports during this quarter amounting to the sum of $45,390.57, which exceeds the corresponding quarter of 1891 by the amount of $19,878.31. The imports of lumber and general merchandise continue increasing, although the correct amount is not obtainable.

Finance and exchange are, as heretofore, carried on by a few merchants doing business with New York houses, exchange ranging between 20 and 25 per cent.—John Drayton, *Consul, Tuxpan, April, 1891.*

TRADE AND COMMERCE OF GUATEMALA.

REPORT BY CONSUL-GENERAL KIMBERLY.

This report is specially prepared with the view of once more calling the attention of the merchants and manufacturers of the United States to these countries and to urge upon their serious attention the business situation of the vast section of country embraced in these five republics of Central America. Notwithstanding all past consular efforts, the average business man of the United States is practically ignorant of the real situation. If otherwise, how is it possible that of the $9,000,000 or $10,000,000 of importations to the Republic of Guatemala alone, and which is steadily increasing, scarcely 10 per cent. comes from the United States. That such a condition of affairs can exist is a great surprise to me. Knowing so well the characteristic and ingenious enterprise of the average American business man, I can not comprehend how such great opportunities right at his door can escape his attention.

It can be safely said that there are no products of American enterprise or industry but would find ready and eager sale in these markets. Dependent, as they are, entirely upon other nations for every article of manufacture and use entering into the needs or necessities of ordinary life, they accept with avidity any conditions which supply their own native deficiencies.

In my many visits to the warehouses and stores of the average merchant of Guatemala I was surprised to find—and it is no uncommon sight to see—as high as $200,000 worth of goods in stock, scarcely a merchant of note carrying less than $50,000 worth in their stores. These stocks are generally of a mixed character, including everything denominated as general merchandise, it being rare that any line of goods is exclusively sold, except, perhaps, dry goods; and I may say that many of the stocks in this line will compare in magnitude and variety with those of the more extensive merchants of our own large cities, and which comprise fabrics from the looms of every nation, but, I am sorry to add, only a small portion from the United States. This is a sad showing, equaled only by my surprise that such an extraordinary condition can obtain. A part of our own continent; one continuous line from the great State of California, a stream scarcely separating it; extending southward to the Isthmus, to which come the steamers of the Pacific Mail Steamship Company and merchant ships from New York; and on the northern coast of Guatemala, on the Caribbean Sea, only 4 days from New Orleans, is Livingston, a seaport town of the Republic, about 190 miles from its capital, the city of Guatemala—all lying so near the harbors of San Francisco, New York, and New Orleans, whence may be shipped those products of the mechanical and industrial ingenuity of our country. Yet the nations of Europe absorb this vast and growing trade. It may be in a measure due to the fact that our people have been so busy since the late civil war in building up our waste places and industries that they have had no time for reaching out this way; but this must necessarily change, and the increasing volume of products may force them to look for other points of outlet. It can scarcely be, as one of the causes, apprehension of the financial standing or credit of these merchants, for I have discovered that business failures are exceedingly rare, and fraudulent business failures are unknown here. In fact, the laws of this Republic are of such a stringent character that one having failed in business must show to the legal authority that he has fully paid off all previous liability before he can recommence. The merchants, and especially the larger houses, are, as a rule, thoroughly strict and reliable, and are composed of all nationalities, the Germans, however, predominating. These facts have come to my knowledge during the few weeks that I have been here as consul-general, and so earnestly have they impressed me that I have lost no opportunity, even from my arduous office work, to ascertain the causes and find, if possible, a solution of this problem.

At first it seemed perhaps probable that the recently unsettled affairs of these Governments would in some measure account for it. This can not be, however, for the importations are steadily increasing from Europe, showing, evidently, that no such apprehensions are felt there; and the fact is that, apart from the control of the imposts and fixing the duties on exports and imports, these Governments seem to be separate and distinct in their respective trade and business affairs, the great element of trade coming directly from the necessities of the people themselves, and, like all nations of primitive habits, they are lavish in their expenditures and rarely quibble about prices. I find, also, the business system generally adopted in selling goods is cash, and when otherwise it is for good reasons. The people seem busy and prosperous, and need the very articles in which our manufacturers most excel. These people go to the other side of the world to buy, and for the most part pay big prices for flimsy and poor imitations of American goods. I observe, for example, cheap imitations of our sewing machines, Smith & Wesson and Colt's firearms, Collins's cutlery, and American hardware generally, with which the purchaser is deceived and the American article injured beyond measure, imitating even the trade-marks of our eminent manufacturers, whose products have a world-wide reputation. The merchants here, regardless of nationality, deplore this condition of things and frankly admit the great superiority of American goods. When asked the cause of their not buying our products, they say no effort is made to sell them. They also complain of high freights and bad packing, all of which slight causes could be readily removed.

What may be, in my opinion, another important factor in the matter is the class of commercial travelers visiting these countries and the great distinction in their usefulness. For example, the agents or travelers who come from Europe—and very many do come—are invariably intelligent, polished men, speaking Spanish in addition to their own language, and their polite insidiousness accounts, to a great extent, for existing trade conditions. On the other hand, the very few who have come from the United States—and these mostly from California—are, for the most part, youngsters, speaking English glibly enough, but there it ends. These drummers find themselves, for the first time, perhaps, encountering obstacles such as they never before encountered, get discouraged, and return to what they term "God's country." The foreigner, in the meanwhile, progresses steadily in his efforts, and, when he returns to his employers in Europe, takes orders in his possession frequently amounting to as high as $200,000 at a time.

A little more than a month after I came, and with these thoughts crowding upon my mind, I addressed a series of letters to several business men having large interests here, for the most part Americans, requesting them to kindly assist me in the solution of these questions, and, as they were all of the same character of letters and their responses about the same in substance, I will inclose but two, which, in my opinion, cover all the desirable points.

I. MR. C. W. CARRINGTON TO CONSUL-GENERAL KIMBERLY.

GUATEMALA, *November 17, 1890.*

MY DEAR SIR: Your paper of the 12th instant is at hand, and I shall endeavor to give you a correct idea, as far as it is possible to do so, relative to commercial connections of the United States and Central America. I shall try to answer separately each and every question which you ask, and believe by doing so I can give about the true state of affairs in better and more concise form than in any other way.

Your first question was: "Have the merchants of the United States ever made any determined effort to control, or even sell, their goods, etc., here?"

In reply to the above question, I can only say that, with perhaps a few exceptions, absolutely no effort has been made. We receive now and then catalogues printed in French, English, and Spanish, and of late a few houses have sent traveling men down here; but of this I shall speak later on. The efforts which have been made, as stated, are insignificant in comparison with the amount of business which is done here, and, in fact, if I should ask the average jobbing house or manufacturer in the United States, "Where is Guatemala?" in all probability I should receive the distinct answer, "Somewhere in Central America." Should I ask for particular information, I am satisfied the average merchant can tell me more about the mountains of the moon than about the condition or state of commercial affairs of Guatemala.

In the last 12 months a few houses have sent travelers here; for instance, the drug house of Lanman & Kemp, the only one which sends travelers from the United States, had a man here for some time, who sold on his last trip of about 4 months a trifle over $600,000 in these five republics.

As regards credits, which are so often refused by the United States merchants to these countries, our countrymen, by doing so, only show their ignorance, improbable as it may seem. We have had no failure of any important house in this Republic for 8 years. Furthermore, the laws of the country are such that fraudulent failures are almost unknown here, and these matters are only too well known by our European friends, and 6 and 9 months' terms are offered right and left from all European countries. But the terms which rule in the United States, namely, 3 and 4 months on average merchandise, are not a drawback to the United States, as it takes less time for goods to arrive here from New York than from Europe, which is also a decided advantage readily understood by any merchant.

Your next question, "What present advantages, if any, exist why the European markets should control this trade?" is a very simple one to answer.

It is simply a question of supply and demand—not that the United States could not fill the demand, but Europe has the upper hand here, for reasons which are perfectly natural. In the first place, Europe is only too glad to sell to merchants here. They send travelers, manufacture goods to suit the tastes, requirements, etc., of climate, country, and people; in fact, of about $8,000,000 worth of merchandise which is annually imported to Guatemala alone—and this year will be considerably more—the United States is a very small factor, indeed, and for the reason either that the United States merchant does not care for the trade down here or, which I believe, he is too ignorant of the fact that there is a country which only would be too glad to buy from the United States in great preference to Europe, especially as those goods which we do sell give a great deal better satisfaction than most of the European goods. Especially in this line I might mention hardware. Another drawback to our United States merchant is that those who do send catalogues here with prices—I have reference to machinery, hardware, etc.—send what are known in the United States as catalogue prices and subject to a discount of from 10 to 50 per cent. In other words, the merchant of the United States pursues the same methods of doing business down here as at home. The average merchant down here is not American, and he looks at the prices from the United States, compares them with European prices, and, while he very often prefers American goods, the difference is apparently so much between wares from the United States and Europe that he sends his orders to Europe, owing to this peculiar American system of discounts from catalogues. The fact is that, if merchants in the United States are under the impression that the merchants down here are more or less fools, the fools will be in the United States and not here.

Your following question was: "Is it so, as I understand, that American merchants pack their goods so badly as to be unable to undergo the rough usage, hard handling, and the petty pilfering of packages en route from bad packing?"

I can only answer that the average packing from the United States for these countries is decidedly bad. Our firm at different times wrote and stated to houses from whom we ordered goods, "Please pack so-and-so," yet the majority of houses will not follow instructions; hence merchandise shipped from the United States is in general very badly packed, to say the least. The average house there packs merchandise for Central America as if the goods were going from New York to Chicago, instead of here; and it is to me positively amusing when we receive once in a while a box marked "Handle with care," as the general language down here is Spanish and not English, and the laborer on the railroads and wharves in Central America is no better educated than anywhere else, and is not exactly a linguist who speaks three or four languages, and half the time can not read even Spanish. All goods which are shipped to these countries must be more than carefully packed. I shall give a description of a case being shipped from New York to Guatemala city, then the merchants in the United States will probably understand why and wherefore goods must be packed differently and more carefully than merchandise shipped to any part of the United States. The box leaves the Pacific Mail wharf in New York and is loaded from the Pacific Mail steamers on the Atlantic side on a lighter; from the lighter it goes to the wharf, to the Panama Railroad; on the Pacific Ocean side from wharf to lighter again, and from lighter to the steamer of the Pacific Mail Company. Here goods are transported to ports on the Pacific Ocean side. After about 8 or 10 days the box arrives at San José de Guatemala harbor, is once more put on a lighter to the wharf of the La Compañia de Agencias, from the wharf to the railroad, and from the railroad to the custom-house, which is rather small for the amount of business done there, and boxes are not handled with gloves. Taking now into consideration that the surf on the Pacific Ocean side is very strong, and no steamer can land at the wharf of any harbor, with the exception of one—Corinto, Nicaragua—it is easy to understand that, when merchandise is handled so much, cases loosely packed will arrive in a bad state, and often some of the contents are stolen or lost through bad packing, for which nobody seems to be responsible; and many merchants here will tell you, "We do not buy goods in the United States because they do not know how to, or will not, pack the way they ought to be packed." Furthermore, a great many goods in Guatemala and all over Central America are transported by mule or carrier to the interior. While some merchants may order goods to be packed in a manner which apparently may seem ridiculous to a merchant doing business in the United States, these instructions as to packing ought to be invariably followed to the letter.

Your next question was: "Is it true, as I am told, that steam freights between the United States and these republics are so great that it is cheaper to buy abroad?"

As regards freights from the United States, the United States are at a decided disadvantage. The freights from New York to San José de Guatemala are double what they are from Hamburg, Germany, for the reason that out of Hamburg two lines run to Panama, which are continually fighting each other, and from the United States we have but one line, the Pacific Mail Steamship Company. The charges of the Pacific Mail Steamship Company, considering mileage, etc., are not exactly excessive; they are high, but the expense is in proportion. But charges of lighterage, wharfage, and railroads in Guatemala are out of proportion to the freight charges on the Pacific Mail. It will pay any merchant in Central America to ship bulky goods from New York to Hamburg and have them at the latter place reshipped to Central America. The freight charges from New York to most of the ports on the Pacific side of Central America are 75 cents (gold) per square foot; from Hamburg for same measurement, 1 mark (24½ cents); so arguments are out of place, and from our standpoint as merchants we can simply do nothing; but if the United States desire trade down here, it can not be got solely by big words and what is called in the United States "taffy."

The merchants all over the world will buy wherever it is possible to buy to their advantage. We have been more than once forced to go to Europe to buy goods, solely for the reasons which have already been enumerated.

As to your last question, "Are those obstacles blamable or traceable to any individual or corporation?" I can only say that our representatives here might have taken the subject in hand long ago, and also the United States Government should see that the CONSULAR REPORTS are distributed among the business men in the United States. The average business man in the United States, as I know from my own experience, will not take the trouble to look for the CONSULAR REPORTS, especially as business was good enough in the United States in years past without going out of the United States; but at the same time I may truthfully assert that no country offers such inducements as Central America to industrious, sober Americans. The climate, with the exception of the coast, is healthy, the soil is the richest that ever came under my observation, and anything will grow almost anywhere. Guatemala, with the exception of about 15 miles inland from the coast on either side, is from 3,500 to 7,500 feet above the level of the sea, and for scenery and richness of soil it beats any country in the world.

In conclusion, permit me to say that this country (Guatemala) exports about 600,000 quintals (100 pounds to a quintal) of coffee, of a relative value of about $20,000,000, the most of which goes to England and Germany. With a little effort or push intelligently used, I believe the United States not only could have considerable of this trade, but could positively control it.

Wishing you success, etc.,

C. W. CARRINGTON,
Of Miller & Co., Bazar Americano.

2. MR. THEODORE PASCHKI TO CONSUL-GENERAL KIMBERLY.

GUATEMALA, *December 4, 1890.*

DEAR SIR: The questions which you kindly put to me in your letter of the 14th of November are exceedingly pertinent regarding the subject upon which you wish to be informed, and, lacking the practical training of a merchant, I always have hesitated, and still hesitate, to give decided opinions upon such a vast subject; still, if my views, based upon the observations made through a period of some 6 years, during which I had the opportunity of traveling over a great part of this Republic, can be of any utility in bringing about a better showing in favor of American exports to these countries, I consider it, indeed, an exceedingly pleasant duty to give them, leaving it to the keen and practical judgment of the American merchant and manufacturer to sift them, that he may find, perhaps, a grain or two of some value to him.

Nos. 1, 2, and 3 of your questions are so closely related to one another that I will answer them collectively.

It is a matter of history that the countries of Central America are some of the oldest settled by Europeans, and therefore only a natural consequence that the markets of these countries should have had a demand for European industrial products long before the American manufacturer thought of exporting, he being kept exceedingly busy with the demands of his home market.

Under such conditions that the European manufacturer has cultivated and fostered close and intimate commercial relations with these countries, and consequently controlled their markets, is not surprising, but perfectly natural. It is only of a comparatively recent date that the American industries have developed such efficiency in their quantitative productions, exceeding the home demands, that their attention has been called to other markets besides their own.

Following this line of thought, the difficult task to dislodge the Europeans in their control of these markets becomes perfectly plain, more especially so when we take into consideration the superior experience, and therefore the greater acquired tact, of the European exporter in dealing with his customers across the water over his younger, pushing, but less-experienced rival.

It is said "there is a knack in every trade." The trade of exporting has also its "knack," and to acquire this knack should not be so very difficult to the wide-awake American merchant. In the first place, it is necessary to study the ways and manners of our successful competitors or rivals thoroughly, and then go one better on them. As a general thing, it may be taken for a fact that most of the existing larger foreign business houses here are the outgrowth of some agency or branch from a larger European house, started by a junior partner, a relative, or otherwise trusted employé. Others have been started by young men who had been sent out by the mother house and served for some years faithfully as clerks, and, being of a deserving, energetic, pushing character, established themselves in business.

That under such conditions a long-credit system should spring into practice is perfectly natural, and that it is a safe one is proven by the general prosperity of the merchants here and the entire absence of business failures. During my 6 years' observation I have failed to note one single commercial failure.

Another notable consequence of these conditions has fallen under my notice, which is this, that a good many young and energetic men, having accumulated a modest fortune in the course of a few years, retire from business here, return to their native country, set themselves up as commission merchants at home, and, being possessed of a thorough knowledge of these markets, as well as the confidence of the merchants here and the manufacturers at home, become powerful factors in the furtherance of still closer relations between the two.

But the European manufacturers and merchants, not content with this state of affairs, display a further activity and tact in sending out their army of solicitors, or traveling agents. These agents are, without exception, far superior to their American rivals. In the first place, they are mature men, speaking fluently three or four languages; they have attained all the social accomplishments which enable them to move with éclat in any society; and they can philosophize as agreeably with their should-be customers over a bottle of wine as they can win the good will of the ladies of the merchants' households at an evening party.

On the other hand, when we look at his American brother, we are forced to admit—no matter how bitter the pill may be—that he is not the equal of his European rival, and therefore can not expect to cope successfully with him. As a general thing, he is a young man scarcely out of his teens, speaking no language except his mother's tongue, possessed of a great confidence in himself and his own importance, it is true, but cherishing a hearty contempt for anything that is foreign to him, and not at all backward in expressing it at the slightest provocation, and ever ready to force upon his should-be customers his own views and notions of things in general.

The people of the Latin race are proverbially and truly a very polite people, and, if approached in their own manners, are exceedingly easy of access; but, as a general rule, they are a very conservative people with a love for slow and tedious bargaining.

Now, further, to say that the European merchant is ever studying and trying to exactly supply the special demands of these markets would not be entirely proper; he has it far easier. We will be nearer the truth when we consider that the consumer of Central America from the beginning has been educated by the Europeans what to consume; of course, with a due consideration not to depart too rapidly from any fixed and strong habit or custom of the people.

The great masses of the consumers, the Indians, have become so attached to the form, shape, and quality of European products that they have become familiar and dear to them, and, conservative as they are, are loth to exchange them for other shapes and forms, no matter how superior they may be in quality; and that the majority of American products which could be introduced here with advantage to both buyer and seller are really superior in quality is admitted by all impartial (even European) merchants here.

This is especially true of the article of largest consumption. I refer to cotton woven goods, unbleached cotton particularly. The European article is usually of very inferior quality, heavily impregnated with some earthy matter to give it a strong, stiff appearance, but made up neatly in pieces of 9 or 10 yards each, tied with a red ribbon, the trade-mark upon it, and in most cases embellished with a gaudy picture. The average buyer—usually an Indian—never questions the measurement of the piece, has implicit faith in the red ribbon as evidence that the piece is entire and of customary length, and will look dubiously upon any fabric which is not made up in a similar manner.

Such cases have frequently come under my observation, and I have tried to convince the same Indian that it would be to his advantage to take the same number of yards measured, cut, and packed up before his eyes from an American manufactured piece 60 yards long, of a far superior quality, without the foreign earthy matter in its meshes, and costing only a trifle more, but with no avail. The Indian would shake his head, stick to his original package, load himself with the foreign earthy starch matter, which, after the first washing, would leave the fabric like cheese cloth, and be content and happy in the belief of having had the best of a good bargain. There is no doubt, if the American cotton manufacturer will take this to heart and govern himself accordingly, that he soon will have full control of these markets.

Another very interesting class of American exports is the different agricultural implements, such as axes, hoes, machetes, or brush swords, picks, etc. Every intelligent and impartial observer admits that the American make of any of the above-mentioned articles is infinitely superior in quality and form to the European article, and still the Indian, from long-acquired custom, sticks to the clumsy European sheet-iron hoe and the primitive European-shaped ax.

If we examine the American ax carefully, we will find that its shape, the form of its handle, etc., are the result of a close study by an eminently practical class of people in the art of wood-chopping; yet the conservative Indian, educated to the use of the European ax, will shake his head at being shown the American article; probably he will try a few strokes with it, but lay it down and reach for the European ax without an adjusted handle, go to the woods, cut a rough stick from a tree, insert it as a handle, and go to work chopping, thinking that he can not be fooled with the outlandish-looking American ax.

Here it would not be amiss to mention and hold up as an example worthy of imitation by others the American house of Collins, manufacturers of edge tools, whose wares, especially their brush knives, are known and appreciated by every intelligent planter in Spanish America. In spite of the higher price of these goods, there are not a few, especially foreign, large planters who will buy them in preference to all others. Their laborers are more contented and accomplish more work with them than with the European article. The Collins goods are making a good inroad upon these markets by the house pursuing the simple principle of furnishing only a superior article in every respect and adopting such shapes and forms as the people of each section are accustomed to, but always improving them somewhat—never enough to arouse the suspicion of the consumer that it is an entirely new departure. Among other things, I have noted European-shaped, but Collins-made, axes, which are highly appreciated by the Indian who has once used them; but still by far the greater bulk of all such agricultural implements sold come from Europe, for the reason that they are offered cheaper. The individual Indian selects them from force of habit and the small native planter from motives of economy.

As to the fourth question, concerning the imperfect packing of goods by our American merchants, to simply call it "imperfect" is putting it much too mild; "abominable" would be a more fitting term for it. There is not a single merchant here who does not complain about the imperfect and wrong packing of American goods, for it is not sufficient to make the packing strong enough so that the goods will stand the extremely rough usage and hard handling to which all are exposed and secure them against the petty pilfering on the way, but there is another far more important defect to be observed in the packing of American goods, a defect which in some cases really acts with prohibitory consequences on their import to these countries. The tariff on imports in these countries is, as a general rule, made up in an exceedingly primitive way as yet. The duty on a majority of goods is levied on the gross weight of the package, and it is clear that by close attention to the peculiar provisions of such a tariff much more favorable results to the importing merchant may be brought about than by ignoring and disregarding these conditions entirely, as is generally complained against our American packing.

This is really an important matter, and the attention of our would-be exporting merchants can not be called too strongly to a close observation of these two.

Yours very truly,

THEODORE PASCHKI.

The foregoing interesting letters, together with the following extract from our United States consular agent at Livingston (dated December 14, 1890), whose knowledge and experience lend his words great weight, should meet with the earnest attention which they deserve and the careful consideration of every house desiring to do business in these states.

The following is the extract above alluded to:

Imports.—The principal articles of import are flour, pork and pork products, and coal oil. The value of the manufactured articles imported is inconsiderable. The great bulk—say nineteen-twentieths—of the imports comes from either England or Germany. The reason for this condition is easily understood. The trade of this coast is almost entirely in the hands of German merchants, who, aside from patriotic motives, prefer to purchase their goods where the requirements of their trade receive thoughtful and careful consideration, and even the packing of the goods is carefully adapted to the rough means of transportation of the country. There is no question about the superiority of American goods, but the American manufacturer labors particularly to satisfy the needs of the United States markets, and the comparatively small volume of Central American trade is not a sufficient inducement to him to change methods of doing business.

Exports.—Our principal exports to the United States are coffee, bananas, rubber, hides, and sarsaparilla.

It is not necessary in marking merchandise that the Spanish language should be used or "Handle with care" put on it, for, if packed carefully, the goods will stand even this rough usage. All the letters I have received as responses to my questions are of about the same character as the foregoing.

If I were asked the question, "What class of goods would meet with most ready sale?" I would, in a word, say: "Anything, everything; canned goods of all descriptions, hardware, notions, dry goods, farming implements, household and decorative furniture, boots and shoes, hats and caps, books in the English language, stationery of all kinds, the products of our large western dairies and packing houses, such as butter, lard, hams, shoulders, sides, breast pieces, dry-salted and smoked meats, etc." I can only say that these republics contain about 3,000,000 people needing all these things and are fully able to pay for them. This city of Guatemala contains 65,000 inhabitants, many of whom are millionaires, whose homes are palaces. Our people should remember that the best coffee in the world is grown here, and in large quantities, producing immense revenues for their owners and governments. This money is necessarily disseminated, falling into the hands of the people, who in turn desire to purchase those things useful and necessary to life.

I shall now enumerate such commodities as, I am satisfied, would meet with ready and lucrative sale, not only in this city, but in these republics generally. English books, literature, and periodicals are in much greater demand than these Spanish-speaking countries would seem to warrant. Those in need of such—and there are many besides Americans and English—must send abroad for them and wait a tediously long time before they are received. The tailors of this place are very good, and their stock and work will compare favorably with those of our fashionable tailors at home. Good hats, such as those made by our leading hatters, are in demand, and American toys are sought after.

The climate of Guatemala is of an even temperature, the thermometer having an average range of from 68° to 74° F. in the daytime and from 62° to 68° F. at night; hence meats, fruits, vegetables, etc., having undergone the usual or ordinary cure in the United States, would stand the test of this climate well.

There is an especially good field for American machinery, such as sawmills, engines, boilers, pumps, and machinery for coffee and sugar *fincas* and mining and milling purposes.

There being no gas plant in this Republic, and the electric-light plant of this city supplying only the streets, leaves a fine opening for lighting material. But few of the stores make kerosene or candles a great factor in their business. California sends large quantities of kerosene, but a greater portion comes from Europe and retails at 75 cents per gallon in American gold, or about $1 per gallon in this money. Some candles are made, but hardly to the extent of preventing our merchants from entering the field, and I may say the same of soaps of all kinds. Household articles and kitchen utensils of all kinds command very high prices. An American bakery, furnishing hot, cold, and domestic bread, pies, biscuits, crackers, fancy cakes, etc., is almost a need, and to these might be added freshly made candies.

Recently an American butcher shop was opened, the only one in the city, and I am told it can not supply the demand. American butter and cheese are better than anything of the kind brought or made here, and there is not sufficient American-made butter at 87½ cents and $1 a pound to supply the demand.

Bonnets, hats, ribbons, and all classes of millinery and women's wear and dressmaking of the better class would do well, as complaint is made of very poor work of this kind.

Crockery, glassware; porcelain goods, from the lowest to the highest in price; art materials, chromos, engravings, prints, and especially picture-framing and gilding, are needed.

There are two or three American photographers who represent their fraternity and are apparently quite successful.

Germany and France control the carpet trade, but their stock and variety are meager, thus leaving an open field for more enterprising dealers or manufacturers. There are fine opportunities for mattress and pillow manufacturers and for our wooden and willow ware. Ready-made clothing can hardly be found here, and there is very little competition in ready-made fancy boots and shoes of good quality.

Dealers in, or manufacturers of, oil lamps and chandeliers of all classes and grades and silver and plated ware would find a good field.

But why attempt any further enumeration? I am every hour more clearly convinced that nearly every class of merchandise produced in the United States would meet with ready sale in these republics.

Following closely upon the action of the recent conference of the Pan-American Congress, held at Washington, it would be well if a deputation of experienced business men would visit these republics, especially the Republic of Guatemala, representing the business interests of our country—a commission of tradespeople who could almost at a glance seize upon the situation and ascertain the character, requirements, and classes of goods in demand. Our Government has labored unceasingly in the direction of reciprocal measures. It is a great and wise policy, this drawing into closer relationship pan-America. What grander public policy could be pursued than to stamp these American republics as friends, allies, and customers; and what stronger or firmer alliance could bind us than reciprocal business interests? Trade and commerce rule the world, and no period has passed, or can pass, but has strengthened and augmented their all-potential influence. Our nation is essentially a business people, whose power and wealth to-day emanate solely and entirely from labor and industry. The shutting down of a single mill, the silence of a single furnace, or the cobwebs on a single shuttle affect the community, however small, in which it is located; hence the wisdom of inaugurating any movement looking to the enlargement of our foreign trade.

FROM LIVINGSTON TO GUATEMALA CITY.

Probably no name is more obscure to the average American ear than that of Livingston, Guatemala; and yet among the seagoing vessels thronging the wharves of New Orleans there is to be found a steamer of the Macheca line leaving for this port each week, while from New York a steamer from the Williams & Rankine line sails once in 14 days.

The New Orleans route is generally chosen, being the shortest. From that port there is 2 days' sailing on the Gulf; the third day a smooth and delightful run of 2 hours between the island of Cozumel and the coast of Yucatan; then a 24 hours' tossing on the Caribbean Sea, when the pretty little harbor of Belize is reached and the vessel drops her anchor for a day to discharge the European and American mail and cargo. After leaving Belize, a 12 hours' run down the coast brings the steamer into the harbor of Puerto Cortez, a seaport of Spanish Honduras, where connection may be made with the only railroad line in that Republic, going to San Pedro, a distance of 35 miles in the interior. From Puerto Cortez there is a 6 hours' run to Livingston, Guatemala, the most picturesque port on the Atlantic coast of Central America and the depot for all European and American mails bound for Guatemala city, the capital of the Republic.

On Wednesday of each week the New Orleans steamer arrives in Livingston, and on Thursday morning the small mail boat leaves on its 6 hours' trip up the Rio Dulce to Izabal, where the mail bags are transferred to mule back and begin their 6 days' journey to the capital. Travelers coming this way en route to Guatemala who are so fortunate as to have friends on the coast generally advise them of their coming, in order that they may procure from the interior the necessary mules and *mozos* for a quick and comfortable transit. But the unfortunate individual who comes unheralded and unknown must wait in Livingston or Izabal while a telegram is sent to Guatemala, Zacapa, or Gualan for the indispensable animals and Indians, possessing his soul in patience until they arrive. For some years the nearest telegraph office to the coast was at Izabal, 50 miles in the interior; but a line is now being constructed to connect this with Livingston, and in the course of a few months Livingston will be in cable communication with Belize and the world, thus facilitating in a great degree the commercial interests of the Republic of Guatemala.

The route from Livingston to Izabal is by water up the Rio Dulce and half across Lake Izabal, a distance of about 50 miles in all.

It is the same taken by Cortez on his first expedition to this country, and also by Mr. John Lloyd Stephens, that cultured and eminent American who came as special ambassador to this country in 1839, and who, in his interesting book of travels, has given, perhaps, the most graphic description of the country known to literature. But from the Guatemala of 1839 has grown up a much more civilized and progressive Republic, which truth is especially appreciated by the traveler going over this same ground described by Mr. Stephens. Only the picturesque beauties of the route remain unchanged.

The trip from Izabal to Guatemala can be made in 6 days. Starting from Izabal in the morning Juiriqua is reached in good time in the afternoon, affording a few hours' rest before night or an opportunity to the archæologist to examine the famous ruins situated at a short distance from the pueblo. The practical and prosaic-minded traveler will probably prefer the rest and an early start the following morning for Gualan, his second day's destination. Gualan is a town of considerable size and importance, where comparatively comfortable quarters and food are to be found.

The hotels and lodging places along this route from Livingston to the capital, offering, as they do, to weary, hungry travelers the unique diet of tortillas and frijoles stewed in lard of uncertain age, constitute a subject of that peculiar nature of which the least said the better.

Leaving Gualan on the morning of the third day, Zacapa is reached in a half-day's ride, another half day bringing the traveler to Reforma for his third night's rest.

The sandy plains of Zacapa are, perhaps, the most unpleasant feature of this trip, and it is advisable to cross them either at night or early in the morning, thus avoiding the great heat and blinding reflection.

The traveler hastening to reach Guatemala will scarcely care to know that there is any road leading out from Zacapa except the one he rides along; but to him who is interested in the characteristic features of the country the road going to the south will offer a temptation to follow it. It leads to Chiquimula, and from there to Esquipulas, the Mecca of Central America, and is as much traveled as any road in the Republic.

In the well-built and imposing cathedral of Esquipulas stands the far-famed "Black Saint," in whose honor pilgrims come from Mexico and all parts of Central America.

From Esquipulas there is a direct road to Guatemala, but the route by Reforma is much the shorter. A day's ride from Reforma brings the traveler to Guastatoya, where he passes his fourth night. From there another day brings him to El Puerite, where the Motagua River is spanned by a bridge of native masonry, the best specimen of its kind in the Republic. Then the sixth and last day of the journey dawns, and the tired party move on to Guatemala, where they arrive before dark in their travel-stained garments, feeling very much out of keeping with the surrounding civilization.

This route to the capital is essentially the same as that along which the much-discussed Northern Railroad would have run had it ever been sufficiently well developed for such exercise, except that it would have started from Puerto Barrios, some 14 miles down the bay from Livingston, instead of Izabal. But this unfortunate line presents, in its varied history, a striking example of the uncertainty of human plans. Begun in the year 1884, under the administration of President Barrios, it flourished for some 12 months, being brought to an untimely end in the spring of 1885 by the fall of the President at the battle of Chalchuapa and the consequent unsettled condition of Guatemalan finances.

Again, in the year 1888, a new contract for its construction was arranged with the Government by an American gentleman representing London capital. But this also was doomed to die an early death through the bad condition of the national credit and the lack of confidence it inspired in London financial circles.

In the latter months of 1889 a fresh contract was made with a French gentleman representing a syndicate of his native country, and for awhile the tricolor sported on the Guatemalan breeze, while visions of the sundry millions promised as a loan by the conciliatory terms of the Frenchman's contract lent a delightful air of expectancy to the festal season.

To the glory of the Guatemalan Government be it said, they stand preëminent in their graceful acceptance of, and dignified contentment under, these trying conditions.

The rebellion in Salvador, to aid which domestic quarrel the Guatemalans, like good neighbors, marched, plunged the country in a state of deplorable uncertainty, and thus endeth the third chapter of the Northern Railroad.*

FROM THE UNITED STATES TO GUATEMALA CITY.

Of the different routes from the United States to Guatemala, by far the shortest is that by way of Livingston; but it is, however, much the most tedious and tiresome, and devoid of all comforts on the way from Livingston across the country to the city of Guatemala.

There is a weekly line of steamers from New Orleans to Livingston, making the trip in 6 days; but the journey would be much shorter were it not for a day's stop at Belize and another at Puerto Cortez.

Livingston is only a roadstead, and the steamer anchors about 2 miles from the coast, from whence the passengers are conveyed to the town in a steam launch and the freight by lighters.

Livingston is composed almost entirely of Carib Indians, and has about 3,000 inhabitants. The business, however, is in the hands of the whites, who, perhaps, do not number more than 30 or 40 people.

The traveler on his way to the city of Guatemala here takes one of the small steamers plying between this point and Izabal, on Lake Dulce. These steamers run three times a week and make the passage in about 5 or 6 hours, the distance being about 48 miles. The mouth of the Rio Dulce is almost at Livingston, and in passing through this tortuous stream one is struck by the beauty of the scenery, the precipitous and high banks being covered by evergreen foliage, from which depend many beautiful air plants and among whose branches sport birds of the most beautiful plumage. The river soon widens into the Golfeta, on whose shores are many banana plantations, and occasionally an Indian village is seen. Then a pleasant sail diagonally across one end of Lake Dulce brings the traveler to Izabal, where the custom-house is situated, Livingston being a free port. This is a small Indian town, but, owing to the presence of the custom-house, there are a number of better buildings for the accommodation of the customs officers and some few other civil officers. There is also a detachment of troops stationed here.

From here the traveler must telegraph to Gualan, Zacapa, or even to Guatemala for mules to continue his journey, and there is frequently considerable trouble to obtain them. From here to Guatemala the journey may be made in from 5 to 8 days, according to the quality of the animals and the burdens they have to carry. The first part of the journey, for about 9 leagues, to Palmya, a little Indian town, the road, or mule path, is over a series of mountains and is an almost continuous zigzag. The scenery, when the principal height of the first range is attained, is grand in the extreme, a range of mountains lying near and below Lake Dulce, with a range of cloud-capped mountains in the distance beyond. To Gualan, 9 leagues further, the path is much less mountainous, and at times opens out into space broad enough for a good wagon road. Gualan has about 2,000, or perhaps 3,000, inhabitants. The houses are of adobe, and the streets are well paved, and all these towns are fairly well lighted. There is a project on foot to make the Motagua River navigable for small steamboats from this point to its mouth, at Puerto Barrios; and there is now an American gentleman on his way to the United States to bring out dredges and other machinery to effect this much desired object. Then to Zacapa there will be a wagon road, which has already been begun. This will enable one to make the journey to Zacapa with comparative ease. From Gualan to Zacapa the country is dry and poor, and the plains of Zacapa are an arid waste. This is a place of about 6,000 inhabitants, and is the only respectable place on the entire journey. The streets are well paved, the houses of adobe and well whitewashed. From Zacapa the path often and for long distances opens out into what might easily be made a good wagon road until the bridge (*el puente*) is reached. This is a substantial stone structure, spanning quite a stream. From here the path becomes one of the worst that could be imagined and zigzags over the mountains through the rockiest and steepest places; but, when the summit is attained, the view of the ranges behind can not be surpassed for sublimity and beauty, and repays one for the arduous and laborious journey he has taken. Then to Guatemala the road is alternately hilly and comparatively level, and as the city is approached the road becomes broad and suitable for vehicles; but there is a tremendous hill to descend and a corresponding one to ascend just before reaching the city, but the road is good.

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*"From Livingston to Guatemala City," thus far, would seem to have been written for the consul general and incorporated in his report, for he now takes up the subject and goes partly over the ground already treated of.

On the entire journey the only place where a bed can be secured is in Zacapa; at all other halting places one is furnished with a raw-hide cot, sometimes covered with matting, and the bedclothes he must furnish himself. For food he can get tortillas, frijoles, and coffee, and sometimes eggs and fat meat.

The cost of a mule for the journey varies from $14 to $20 (in this money), according to the scarcity of the animals and the bargain the traveler can make.

At times it may be difficult to secure a place to stop for the night, as the Indians generally do not care to render a white man a service. They are not courteous, as some travelers have represented them, and are only made so by fear or a desire to gain something. They never, however, molest anyone, and are quite honest, in this respect differing greatly from the Mexican Indians. The difference in the statements of travelers regarding their courtesy arises, probably, from their confounding them with the whites or mixed people, who are invariably polite and courteous.

THE LABOR QUESTION IN GUATEMALA.

The labor question in Guatemala has now become a very serious trouble, as the Indians will not work except under compulsion. Their wants are so few and they require so little to sustain life, which little nature so prolifically furnishes them in this climate, that they will work only enough to gain what they need to half clothe them and to supply the few things to eat that nature does not give them already prepared. Hence it is that some means must be devised to induce them to labor, as they, with few exceptions, have no ambition to rise above their present condition, although many temptations or rewards have been offered them to do so. They are honest, so far as their knowledge of honesty extends, that is, they will not actually steal; but they have no regard for their word in the making of a contract, and, if they see fit to stop work when only half through the time they contracted to work, they would not hesitate to do so and would not think they were committing any wrong. This is really one reason why their wages are so low, because, if they were raised, they would then shorten their days or hours of labor. For instance, an American gentleman, in order to get his work done, offered the Indians twice the amount of their regular wages; but the *alcalde* here interfered and told him that, instead of attaining his object, the Indians would work only 3 days in the week, instead of 6, as they would then earn all the money they would need for their present wants, which is all they care for.

The lack of labor, combined with some other causes, has made the general outlook for the coffee trade less bright this season than it was for the corresponding time last year. Prices abroad, although still good, have suffered during the late financial crisis. The rate of exchange has declined very materially and is variable. The export duty has been doubled. The actual crop of Brazil is heavier than it was last season, with every prospect of a still greater yield for the season of 1891–'92. Altogether, buyers are timid. Prices have not yet been established in the department of Alta Vera Paz, and the yield per tree this season will fall far short of that of last year, although the total quantity for shipment will probably be made up by new *fincas* which are now bearing their first crop.

Six years ago the planter of Alta Vera Paz was provided with labor by the local authorities, payment being made in advance. But little attention was then paid to the *colono*, or tenant, system, as the demand did not exceed the supply. As new places, however, were rapidly coming into existence, the intelligent planter saw trouble ahead, and commenced buying in large tracts of settled land and leaving the Indian in possession, but demanding his services as laborer and paying the same wages as those received by men obtained through the *cabildo*. As a rule, the *fincaro* who is without *colonos* is in a very bad way. While coffee-planting has been on the increase, the supply of labor, on the contrary, has decreased, as the Indians, finding that more labor was demanded of them, emigrated to distant and inaccessible parts of the country or crossed the frontier into Mexico and British Honduras. The future outlook in this department is, then, far from reassuring, and it is said that north of Coban many of the planters will not be able to pick more than 50 per cent. of their crop. On the Pacific slope this state of affairs, as yet, is not quite so desperate, as there is a much larger Indian population to draw from and land is too valuable for the *colono* system to be practiced.

The Alta Vera Paz coffee is of fine quality, for which the highest market prices are obtained, and is considered outside of market fluctuations. It is sold as a mixing or flavoring coffee, and held its price at or near 100*s*., when several years ago other grades were selling at 50*s*. But the best results can not be hoped for in this department, where this superior kind of coffee is grown, until something is done to provide an adequate amount of labor; and while there is still plenty of it right in the vicinity of the places where it is needed, notwithstanding the number of laborers that have emigrated to avoid being compelled to work, it is believed that the growing of coffee must be retarded unless foreign labor be introduced. Now, the Indians object to this, and do not, and will not, willingly coalesce with a foreign element, although they do not openly oppose it. They are suspicious of foreigners and do not care to accommodate them in any way, and at times travelers have been compelled to apply to the authorities to compel the natives to give them lodging over night, although they are always paid well for such service or accommodation, which, of course, is meager in the extreme.

Now, the introduction of foreign labor while this state of affairs exists might result disastrously, although the natives are inoffensive, yet, if roused, might make trouble; hence the introduction of this labor is a question that must not be inaugurated without very careful consideration. Some might ridicule the idea of these humble people (and timid, too, as they call them) ever rising to protest against anything; but a volcano may remain quiet for hundreds of years and then finally break out and destroy cities. Much the best way would be to try to induce these people to supply the labor themselves, if such a thing were possible, but that, it is feared, would require a long course of training, if it could be accomplished at all, so averse are they to do more work than is required for their absolute wants. As an instance, not long since a gentleman wanted parts of machinery taken to his mines, which were of such a nature that they could not be carried on mules, so he endeavored to get the Indians to carry them for him; but, as it would require more days of continuous labor than they cared to give, he could not secure any. He then applied to the *jéfe politico*, and this officer made requisition on a village near by for the requisite number, and then they were compelled to go; but, when they reported to the gentleman requiring them for duty, one said he was sick, one lame, another had a sore arm, and the rest had various complaints. He understood the matter and told them that, unless they immediately went to work, he would report them and have them punished. Finding they had no alternative, they marched off with the articles, and there was then no further trouble. When compelled to work, they can do it; but to get them at it and to keep them at it regularly is the trouble. This is a question that the coffee-planter must seriously consider before embarking in that enterprise.

MINING IN GUATEMALA.

[Mr. Rea to Consul-General Kimberly.*]

Responsive to your desire, I give my observations and examinations of the mineral resources of that part of the Republic to which they have been limited for the past 12 months, together with what information on this subject I have been able to obtain from reliable sources.

My tour of inspection extended through a belt of country from the coast range of mountains on the northwestern frontier of the Pacific side, near Tacaná, across the Sierra Madres, to the coast range of the Atlantic or Gulf slope. The entire stretch at intervals is essentially a mineral territory, in which is found the presence of precious and base metals, and upon which little or no prospecting or exploiting has ever been made.

In the mountains of Motozintla, of the Pacific coast range, there are immense deposits of low-grade gold and silver sulphuret ores and some very high-grade lead ores carrying a low percentage of silver; also, some good copper carbonates.

Near Tejutla exist extensive beds of excellent ocher ores. In the department of San Marcas cinnabar of good grade has been discovered in the blue serpentine formation. The mine has been denounced, but no development has been done on it to test its merit. The formation, being the blue serpentine, is highly favorable for the existence there of permanent deposits of this valuable mineral.

Auriferous high-grade copper ores are found on the south slope of the Chuchumatanes range of mountains, in the department of Huehuetenango. The excellent character of the ore, being high-grade, clean carbonates on the surface, lying in a contact formation between limestone and syenite, would safely justify exploration.

At Chiantla, near Huehuetenango, on the southern flank of this same mountain range, there are a number of lead mines, carrying more or less silver, which have been worked on and near the surface for the past century in a primitive and desultory manner by the Indians, mainly for the lead they contain. They lie in strong veins and deposits, between talc slate and syenite on one side and ferruginous limestone on the other. The ores are of the simplest carbonate combination, carrying all the necessary smelting fluxes, and yield a clean lead product in the old adobe air furnace under fuel heat alone, and average from 40 to 60 per cent. lead and from $10 to $15, and as high as $40, in silver per ton. The geological formations in which they are found afford reasonable assurance that, as depth is attained in these mines, the ledge or percentage of silver will increase.

About 16 leagues north of Huehuetenango, on the high table-lands of the Chuchumatanes mountain range, at Todos Santos, the same mineral formations we find at Chiantla again break out, the veins, or deposits, being somewhat bolder in their surface croppings, averaging from 60 to 70 per cent. lead and from $25 to $45 in silver. A group of these mines is owned by Mr. Franciscobaleg Mont, who has made some shallow explorations on them, developing large bodies of argentiferous lead ores, which already improve in silver at the slight depth he has run down on them.

Strong natural fountains of saline waters burst out at San Mateo, Ixtatan, and Pichiquil. They are being operated on a rude, primitive scale, and produce an excellent grade of salt, which finds a home market at remunerative prices in the immediate population.

The same argentiferous lead belt follows the line of contact between the limestone and syenite and talc formations in an easterly direction, and forms another group of mines of the same character at Santa Cruz de Mushtli, on the south fork of the Passion River, in the municipality of Salama. My attention was called to a vast deposit of this class of ore located in a sharp peak on the east bluff of the river, which had every appearance of being the ragged remains of an extinct volcano that in its last eruptions had vomited up a flow of molten lead, mixed with a small percentage of carbonates of lime, and in the course of the flow had congealed into large bowlders of pure lead metal. A marked depression, or basin, on the top of the peak represented the outlines of a crater. Here bowlders of the metal lay in heavy masses, as though they had been heaved in a liquid state, granulated into masses, and cooled just as the action ceased. From the slight exploration made at this point it seemed to develop a large chimney of ore that might reach down to a great depth—to the fountain head or initial beds of metal that produced this phenomenal flow on the mountain side. The test assays ran from $10 to $60 in silver and 80 per cent. in lead. This same mineral formation extends on further east along the Chuchumatanes range, and is lost in the unknown wilds of the Lacandon country. To say the least of this silver-lead belt, it is a wonderful showing of mineral on the surface, and the attendant geological features are most favorable for large and permanent bodies of ores and an improvement in the percentage of silver in the downward tendency of the veins or deposits.

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* Mr. Rea, a native of North Carolina resident in this Republic, has given the subject of which he treats careful attention and investigation.

Further west, in the lower Pacific slopes, there occur heavy beds of fine, loose gravel, bearing 2 and 3 ounce nuggets of pure lead. These nuggets seem to be plentifully diffused throughout these beds and, as far as I could ascertain, were extensive. The rare occurrence of pure lead in this natural state may be accounted for on the theory that the fiery action of some neighboring volcanoes had encountered a lead vein in its eruptive course and had reduced and refined its ores by its underground fires, and in its inward throes had cast up the molten metal, which, on reaching the cool air, granulated into these small virgin nuggets, and had settled countless ages ago in the sedimentary beds where we now find them. Lying, as they do, near a coast port, they might be exploited to an advantage.

Cinnabar ore is reported to have been found in the municipality of San Marcos, and also tin ores near Malactan.

Some excellent salt springs break on the Salama River. The waters yield a high percentage of first-class salt, and, if systematically operated, could be made to yield a handsome revenue.

Two large deposits of black lead, or plumbago, exist, one about 15 miles north of Huehuetenango and the other about the same distance south. The mineral is of an excellent variety, clear of grit, and ready for commerce.

In the department of Quiche tradition places a gold mine of fabulous richness somewhere in the mountains of Illon, which was discovered and worked in the colonial days of the Jesuit priests. The old canonical archives speak in unmistakable terms of its existence and the wonderful richness of the gold output realized by the church and the royal crown from 1627 down to the close of the century, when, from political convulsions and hostility of the Indians, the operations were abandoned; and it has since been so far neglected that it is now known only in tradition. The natives of that locality possess the secret of the location of the mine, but are a very exclusive people and threaten with death anyone of their race who would dare reveal the secret. On one occasion President Barrios succeeded in obtaining a specimen from the mine from one of the tribe, which proved of such extreme richness, and the story relative to the mine so direct, that he was so thoroughly convinced of the reality of the tradition that he used every effort to unearth the secret, and finally induced the same Indian to lead one of his trusty agents to the mine, but, before reaching the place, their tracks were dogged by these jealous Indians and the guide murdered; and thus the prospective golden treasure remains an unsolved problem for some ambitious prospector to work out in the future. Marble of a superior quality, alabaster, and immense beds of gypsum are also found in this department.

The department of Baja Vera Paz has claimed my attention for the past 3 months, and I find the geological formation of that portion to which I devoted my examination highly favorable to the existence of the precious and useful metals. I found well-defined auriferous gravel beds at different points along the banks of the Rio Grande, showing a fair average prospect of heavy, coarse gold. The little development I found here had been confined to the immediate banks cut down by the river channel, by scooping out the gold-bearing gravel from the upper surface and patiently washing it in rude wooden *bateas*, or bowls. Seventy-five of these *bateas* averaged about $5 in nice, clean gold. It does not seem that there has been any attempt to properly explore any of these auriferous gravel beds. In many places the flats extend back from the river banks to a considerable distance towards the hills or bluffs, giving an extensive area for placer ground. The gold-bearing gravel beds generally lie deeply capped by alluvial deposits, and consequently drifting in on the beds would be the most feasible way of mining them; and, as the gravel is clear of clay, some simple gold-washing device would easily eliminate the sands and other matter from the gold at a trifling outlay of labor. A little energy and enterprise expended in prospecting these grounds might be well repaid. The river at its lowest stage would afford all the hydraulic power that would ever be required in extensive placer operations.

Good croppings of sulphurets of silver and carbonates of copper are found in the adjacent foothills above the Panahigh placers.

Along the south slopes of the range of mountains that run parallel to the Rio Grande there extends a mica belt for a considerable distance. The line of this rare mineral is very distinctly marked, strikingly similar to that of our best mica formations in North Carolina, the chief source of supply of this mineral in the United States. The ever-present serpentine and foliated rock structure, the light-colored gneiss, and the micaceous schists, with frequent and indefinite alternation of the talcose slates, clearly define the line of this mineral, upon which at intervals good, strong croppings of mica break out, and where, exposed by gulch erosions, show veins or deposits from 6 to 10 feet in width, studded thickly with large bunches or blocks of mica firmly fixed in the gangue rock of the ledge, giving every evidence of permanency.

These blocks are of the finest laminated structure, clear as crystal, and entirely free from foreign substance that so often detracts from the value of this mineral. These blocks of mica would probably yield 15 per cent. in cut commercial mica sheets, averaging from 2 by 4 to 6 by 12 inches in size. The refuse of the blocks and the smaller sheets would furnish a large quantity of clean mica that could be profitably utilized by grinding up into flour mica for export, as the uses of ground mica are yearly increasing. I will not fail to note that frequently the sheets in some of the blocks exhibited beautiful figures of variegated colorings, shaded with blue, green, red, and yellow, happily blended in the most delicate tints, which, on a thorough fire test, proved to be a fast-coloring matter. This class of mica, when colors become more solid, commands fancy prices.

As there has been no development on any of these deposits or veins beyond the prizing or tearing out a few blocks from the ledges by the natives, who split out the largest sheets, which they use in decorating their patron saints and adorning their church altars, it was difficult to form a definite idea of the walling or inclosing rock of the veins or their depth, dip, or strike; but, from the best examination that could be made under the circumstances, the mineral area seemed to be inclosed on one side by mica schists and on the other by porphyritic gneiss, the gangue rock or fissure filling being mostly of coarse granite, and, in some places, mixed with coarse quartzite, in which the forces of crystallization had met with comparatively little resistance.

In the process of formation the crystals had developed to the large size we find them here on the mere surface, and had been the result of aqueous, rather than igneous, origin. In this connection, I would say that, from careful and long-continued observation on the subject of mica vein formation in the country, the vein structural formation which we find here has a most favorable influence on the width, depth, and permanency of mica veins, or deposits, and doubtless below the zone of atmospheric influences, which usually is from 10 to 20 feet, the veins will become more solid and the quality of the mica will correspondingly improve. A company has been recently organized, and has preëmpted or denounced the main deposits of the Chol group, and are preparing for a systematic development. From the great quantity of mica in sight they will doubtless soon have a product ready for market.

Running parallel with the line of the mica area there are found veins of asbestos and deposits of plumbago. The asbestos is of the fine textile variety, and seems free from all foreign substances, varying in color from deep gray to snow whiteness, the fiber measuring from 1 to 3 feet in length. The plumbago lies in irregular deposits, showing considerable quantities on the surface, and is of a clean quality.

In the vicinity of Ravinal and Cabulco are found undeveloped silver and copper ledges. The silver veins are small on the surface, but in good primary formation, being fair-grade lead sulphurets. The copper veins are small, but the ore is of the finest kind of malachites. Loadstone and immense deposits of high-grade magnetic iron ores, also large gypsum deposits, lie in the same locality.

In Alta Vera Paz, near San Cristobal, there is a group of lead mines carrying a light percentage of silver, which, though small, would pay for separation on a large scale. These mines are worked for the lead alone, and supply the entire ordnance department of the Government. Thus this silver-lead bullion is destined to be improvidently manufactured into bullets to be expended in bloody human conflicts, instead of being refined and coined up to win the battles of peaceful human industry.

Near Coban are extensive chalk beds of a most excellent quality, which are mined, and the product prepared into neat crayons that supply all the schools and colleges of the Republic with this useful article.

Native mercury has been discovered in the mountains north of Coban. Specimens of float rock taken from the same locality proved to be the gray sulphurets of mercury. No explorations have yet been made to discover the ledge. Quantities of bitumen are found in beds in the eastern section of the department, which is strongly charged with petroleum, is highly inflammable, throwing off a bright, strong flame, emitting a decided coal-oil flavor. A proper exploitation on these beds by systematic boring would doubtless tap, at a moderate depth, a petroleum flow.

Several large, bold flows of salt springs burst out at the seven sierras, in the northern part of the department, which have been been operated for years and yield an extra quality of salt, from which the population of the eastern departments mainly draw their supplies, and, if worked to their full capacity, could be easily made to supply all Central America with their product alone.

In the department of Izabal, on the alluvial lands of the Motagua and Polochic, in the vicinity of Libertad and Quebradas, exist extensive beds of gold placers, which have been worked for years in a primitive way, until several foreign companies have commenced operating them with the best modern appliances, and they are reaping favorable results. These gravel beds cover a large area of ground, are of good average thickness and well defined, and under proper management should yield fair dividends.

These two rivers and their tributaries drain an extensive mountain country, and have in time cut and dragged down their golden sands from existing quartz veins on their course, which circumstance would give reasonable grounds to believe a quartz El Dorado of the "yellow wealth" may some near day be uncovered somewhere along the upper line of their flow.

In the foothills a few leagues west of Livingston have been discovered several coal veins, which are said to be of good anthracite variety; but no development has yet been done on them.

The department of Chiquimula abounds in numerous meritorious mineral prospects. As far as discovered, the principal localities are the districts of Concepcion, Alotepeque, and Lemones. The natives of these places have, in a crude, desultory way, taken out considerable quantities of silver, copper, iron, and antimony.

The ancient mineral of Alotepeque lies in a mountain of the same name, and was at one time operated very successfully, producing large quantities of silver, when a disastrous cave occurred in the mine, burying the underground works so effectually that the owners, having amassed comfortable fortunes, never attempted to reopen the works; and the mine has ever since remained abandoned, save what little work the Gambusinos have done in their loose mining style, culling out and robbing the ores from most accessible points of the old works for years afterward, then extracting considerable quantities of silver from the mine.

There exist in the ancient archives reliable data of a rich silver mine near the pueblo of Guanagazapa, in the department of Escuintla, that was successfully operated in the colonial days, but all traces of it have been lost. In another place, known as the "Salts," there has been recently discovered a silver mine that gives satisfactory average assays in silver, but for want of enterprise and means has never yet been explored. There were also several gold and silver mines worked at the same date, and, as the canonical archives indicate, yielded profitable returns. Its identity has been entirely lost, and there has never been enterprise enough among her easy-going agricultural population to explore for their rediscovery.

At Metascuintla, in the department of Santa Rosa, is located the Rosario silver mine, the only quartz-silver mining enterprise in active operation in the Republic. The property is owned by Messrs. Catarrus & Co. and has been recently placed under the management of Mr. G. F. Thomson, a highly competent American metallurgist and engineer, who is giving the most satisfactory results to the stockholders. The mine is equipped with a good ten-stamp mill with all the modern ore-treatment and mining appliances of a well-appointed silver plant, and yields an output of from $30,000 to $35,000 worth of high-grade silver bullion per month. The ores are dry sulphides, sulphurets, and chlorides, with a frequent combination of zinc blende, that insidious "thief of metals" that so often gets away with the precious metals unless closely watched by the skillful operator; but, under the present process and superior skill of the present administration, the ores are worked up to a high percentage of their value, giving, probably, a net profit of over 100 per cent. on the capital invested. For the past 2 years the treatment of the ores has been quite defective. Their refractory nature has baffled the efforts of the metallurgist and has inflicted heavy losses on the owners, who, nothing daunted by these temporary failures to manipulate the ores, and regardless of cost, prudently procured from the United States the services of the present highly accomplished and competent manager, who soon set matters right and has, under his short regime, practically demonstrated the great value of this mining property. The veins are strong, well defined in the primitive formation, and, from the splendid reserves of high-grade ores now systematically opened up and in sight in the underground works, assure the lucky owners a "bonanza" for years to come.

In the different mineral belts of the Republic, without doubt, there are other such opportunities as the above lying around loose awaiting only intelligent and practical methods to be put in operation.

On reference to the old archives of the colonial days, we find that, between the dates of 1627 and 1820, 1,322 mines of gold, silver, lead, copper, iron, tin, and one of mercury were opened and worked, and were a source of great revenue to both the church and State. Taking these important data into consideration and the presence of these minerals as now known and recognized to exist over a considerable extent of her territory by subsequent and recent observation and exploration, the question naturally arises, why are these valuable resources neglected? In answer to this question, let us take a brief glance at the political and industrial situation from the first date to the present. The mining industry between these dates was entirely under the auspices of the religious orders. No encouragement was given to home investment, and the enterprise of mining was circumscribed. The skill and processes of that day were a patent sacredly held by a few chosen ones of the order, and, when they were expelled from the country at the beginning of this century, the mines were abandoned, and all spirit of mining enterprises disappeared. In the decades of civil revolution that followed all the financial resources of the country favored only the agricultural and pastoral industries, in order merely to keep soul and body together. Thus reduced to this sad condition, her people could take no risks in mining explorations, and, as capital is decidedly averse to bullets and blood, no foreign investors would venture to take any chances under the existent unsettled condition of things in that unhappy era. The mines being generally remote from the centers of population, even all vestiges of their locality were lost. Thus the country struggled on until J. Rufino Barrios took control of the Government and began to foment a spirit of progress. Until recently Guatemala was, to all intents and purposes, an insular country, reached only by the sea. The business centers, being all in the interior, were accessible only by difficult bridle-path roads. Its modes of business were those of a country apart from the rest of the world. The interior valleys and table-lands, possessing a rich soil and a superior climate, are capable of every variety of the most valuable productions of the globe.

Under these conditions, emerging from her lethargy and exclusiveness, the agricultural interest first naturally claimed the attention of her people; and what foreign enterprise, capital, and outside commercial pursuits that found their way into the country were, too, employed in developing this more conservative interest. Her people lived mainly to themselves and cared but little for the outside world, and the outside world cared but little for them. But the progressive spirit of President Barrios began to infuse broader ideas of intercourse and commerce among her people, and then she began to assert a continental position politically and geographically and to realize the favorable location she occupied betweeen the two great oceans. Her plucky and enterprising ruler caused good roads to be built to every town and hamlet within her borders. He prospected and built two lines of railroad from the Pacific side to the interior, and at the time of his death was engaged in the groundwork of extending one of the lines to connect with the Atlantic port of Santo Tomas. Thus he left Guatemala to some extent enabled to hold out her hands and invite trade and commerce with the outside world.

Fortunately the same spirit has been taken up and fostered by his worthy successor, President M. L. Barillas, whose ambition seems to be alone for progress and prosperity for his people, especial good will and amity to foreigners. His wise and provident course has stimulated business at home and given faith and credit abroad, and under these advantageous conditions capital can afford to enter and test the merits of the mining interests. Relying on the first recent favorable test that has already been made, and taking into consideration the reliable mining traditions of the past and the known presence of the precious and useful metals spread over such an extensive area of her territory, favorable results may well be expected, and a new field for legitimate mining will here open up in the near future that will tempt and attract the practical miner from abroad. The enlightened policy of the Government offers every reasonable encouragement to, and throws every solid guaranty around, this particular interest. There need be no misgivings on the part of the foreign miner as to the security and full enjoyment of his rights under the liberal laws enacted to protect the mining industry.

The mining operations, the character and availability of labor, the costs of freight, and all the other items that bear directly upon the value of mining properties must be closely studied and considered. The mining and reduction of ores in Guatemala, as in all new interior regions, are accompanied by conditions and difficulties that at first are rarely appreciated by foreign operators. When they are properly understood, those difficulties can be satisfactorily overcome. They must learn the character of the native labor and the defective transportation service incident to all mountainous countries, how to convert the crude material and rude appliances at hand to the immediate wants of the situation, and also the importance of keeping a good mining stock ahead on hand.

The American especially must learn to curb his lightning business modes that he is accustomed to at home, and not to be too forward in attempting to force new ways from the start, and, above all things, to leave off his practical motto that "time is money" and be ever ready to make a reasonable compromise on every *manana* proposition that annoyingly may meet him at every turn, and he will soon be able to overcome the trouble and difficulties that beset all new enterprises in a new country.

THE GUATEMALA CENTRAL RAILROAD.

In order to show more fully the business situation in this Republic, I will be compelled to go into some detail, and will take first the Guatemala Central Railroad, an enterprise owned and controlled entirely by citizens of the

United States at an outlay of about $4,000,000, and which is to-day the finest property in Central America.

This first and most important American enterprise successfully carried out on the Central American isthmus by capital, energy, and perseverance of United States citizens owes its existence principally to the initiative of that true friend of Americans and American institutions, Gen. J. Rufino Barrios, who, it is true, ruled this young nation with an iron hand, but left this great work of real progress and undeniable credit to its projectors and constructors as a monument and legacy to the future generations of his native country.

The Guatemala Central Railroad was born and nursed in its infancy under the strong autocratic will of this remarkable man, who gave it the whole benefit of his personal care, ambition, and protection, which large enterprises of the kind demand in these new and unsettled countries.

The history of this American enterprise, as is attested by the many documents and protests filed in the United States legation ever since General Barrios's protecting hand was withdrawn and missed through his untimely death in 1885, shows only too plainly the value and the necessity of decided protection for foreign investments and enterprises in these countries, where an inexplicable shortsightedness, prejudice, and moral delinquencies are so apt to do harm to all foreign institutions. That the Guatemala Central Railroad has been able not only to hold its own against all drawbacks of this kind, but has triumphantly overcome all difficulties and has developed into a successful financial enterprise of great credit to the country, is solely attributable to the invariable prudence, patience, firmness, and, at times, considerable diplomacy shown by the board of directors of the company and their trustworthy agents and managers of the property here in defending and sustaining their acquired vested rights and franchises, unaided and alone, when even the immediate good offices of the home Government were not available under existing regulations of international contract interpretations.

Notwithstanding these difficulties, this road, controlled by some of our best-known American railway operators and financiers, like Messrs. C. P. Huntington, Charles F. Crocker, Morton, Bliss & Co., and Senator Leland Stanford, has developed its important property to a highly creditable standard, in its physical conditions as well as in its financial standing.

A very liberal policy has been strictly observed by the company towards all native interests, and no capital has been spared by men who know what they are doing to give Guatemala first-class railroad facilities in every respect, even to the point of spending considerable fresh capital on an entirely new reconstruction of 14 miles of the most difficult part of the road, where it overcomes in 16 miles a rise of 2,600 feet. This new work caused a removal of nearly 1,000,000 cubic yards of matter, mostly solid rock and bowlders, and the construction of 9,000 cubic yards of first-class rubble masonry, the foundations being laid in cement mortar. Very substantial, solid iron bridges and large arched culverts, some over 200 feet long and from 12 to 15 foot openings, have been substituted for the former wooden trestles, and the whole line is in every respect in the very best condition.

The rolling stock and motive power are, of course, all of American manufacture, with the exception of about thirty freight cars built here in the company's shops of the very best material with American trucks and fixtures. Every car on the line is equipped with the Westinghouse automatic brake gear. Two splendid, powerful Baldwin locomotives, 17 by 22 inch cylinder and 3,000-gallon tanks, weighing 63 tons in working order, have just been added to the company's motive power. A still further increase of locomotives and rolling stock is contemplated on account of the rapidly expanding traffic, particularly in import and local trade along the line. The net income of this road has been more than doubled within the last 4 years, and the standing of this American company is reflecting great credit upon the American flag, because this railway is recognized by all foreigners as the best-equipped road between the United States-Mexican line and Chili.

This subject being a very interesting one to many Americans, I can hardly do better than give some statistics regarding the improvement of this road, its changes, and its remarkable financial progress, showing what can be accomplished by competent and persevering men.

Table showing the freight traffic of the Guatemala Central Railroad during 1889 and 1890.

Month.	Import.		Export.		Local.	
	Quantity.	Rate.	Quantity.	Rate.	Quantity.	Rate.
1889.	*Tons.*		*Tons.*		*Tons.*	
January	1,222	$21.38	1,269	$6.30	1,246	$5.00
February	958	22.64	1,672	7.56	1,351	4.75
March	1,089	20.00	1,701	7.98	1,501	4.81
April	867	20.78	1,038	8.01	1,262	5.20
May	1,267	19.56	742	6.57	1,336	4.90
June	820	21.87	233	6.94	973	5.12
July	865	22.30	187	6.37	880	5.51
August	1,219	20.88	74	11.84	964	5.10
September	1,223	19.85	95	10.86	929	4.97
October	1,106	20.98	128	6.75	973	4.81
November	1,215	21.47	175	7.19	1,089	4.92
December	1,258	22.37	674	6.49	1,469	4.63
Total	13,109	....	7,988	....	13.973	....
1890.						
January	1,365	22.47	1,500	7.73	1,398	4.65
February	1,108	21.12	1,785	8.59	1,461	4.90
March	1,602	20.35	1,735	7.56	1,599	4.75
April	1,274	23.11	1,092	7.96	1,265	4.98
May	1,305	19.78	833	7.47	1,262	5.08
June	1,329	21.26	431	6.62	1,527	5.13
July	1,242	20.24	172	7.00	1,245	5.08
August	1,682	18.19	162	9.19	1,534	4.34
September	1,773	16.55	126	11.72	1,295	4.51
October	1,338	17.10	101	24.32	1,439	4.83
November	1,664	20.29	247	7.98	1,431	4.85
December	1,875	20.79	627	6.72	1,639	4.26
Total	17,557	....	8,811	....	16,895	....

SUMMARY.

Description.	1889.	1890.	Increase.
	Tons.	*Tons.*	*Tons.*
Import	13,109	17,557	4,468
Export	7,988	8,811	823
Local	13,973	16,895	2,922
Total	35,070	43,263	8,193

Table showing the earnings and expenses of the Guatemala Central Railroad since the opening of the line.

Year.	Gross earnings.	Expenses.	Net earnings.	Percentage of expenses to gross earnings.	Percentage of net earnings to gross earnings.	Subsidy.
				Per cent.	*Per cent.*	
1885	$373,058.90	$261,141.44	$111,917.46	70	30	…………
1886	403,077.94	230,043.76	173,034.18	57	43	…………
1887	423,873.63	212,267.84	211,605.79	50	50	$16,666.67
1888	491,001.99	254,772.41	236,229.58	52	48	50,000.00
1889	538,641.36	276,986.23	261,655.13	48.6	51.4	50,000.00
1890	658,042.21	302,680.43	355,361.78	46	54	50,000.00

Table showing the passenger traffic of the Guatemala Central Railroad during the year 1890.

Month.	1889.	1890.
January	$10,849.53	$14,315.28
February	10,995.18	11,477.50
March	13,976.09	14,935.69
April	12,574.33	13,298.41
May	12,800.10	15,465.47
June	9,180.98	10,010.15
July	9,060.25	10,880.22
August	10,011.22	10,033.79
September	8,543.17	11,874.79
October	8,636.94	11,183.16
November	10,790.63	13,264.43
December	12,591.74	15,405.29
Total	130,010.16	153,044.18

The increase in 1890 over 1889 was $23,034.02, or 17¾ per cent. The average fare per passenger was $1.15.

In accordance with the settlement of August 27, 1887, agreed upon between the Government of Guatemala and the company, the latter engaged to change the seven wooden trestles on the Escuintla-Palin section for iron structures within the term of 20 months from that date.

Engineers were placed at once in the field by the superintendent, in order to study the immediate and most feasible execution of the company's engagements in regard to the change of iron bridges for the wooden trestles.

The result of these studies showed clearly: (1) That the masonry under the wooden supports was highly defective and had to be renewed entirely of a much stronger quality; (2) that the wooden trestles could not even serve as false works for the execution of the iron structures; and (3) that on the same locality the latter could not be put in without a long and tedious suspension of traffic.

Consequently the location of new bridge points had to be made entirely independent under a very considerable expense in the deep-cut approaches, wherever these new bridge points might be located. This difficulty, together with the extremely heavy grades of the old line (5 to 6 per cent.), convinced the superintendent that the most economical and reasonable thing to be done under the circumstances was to look at once for an entirely new line which might partly avoid the above difficulties and reduce the general heavy grade to the maximum of other sections of the whole line (say 3½ per cent.), with compensated curvature.

Of course, months of valuable time had been consumed already by these studies, but, as the inconsistent action of the constituent assembly of October, 1887, had given ample margin for protest against congressional action, which actually threw the time as an essence of contract out altogether, they had the opportunity to propose to the Government a complete change of the line, which was accepted and finally approved by the assembly of 1888, providing in the same decree that the 20 months for the change should commence from the publication of said decree, April 23, 1888.

The construction time was exceedingly short. However, no alternative was left but to accept it after the ill-will shown throughout the sessions of the constituent assembly of October, 1887, and of the regular legislative assembly of March and April, 1888, had proved only too clearly that a pretext for canceling the settlement of August 27, 1887, was looked for, when this settlement had really no business whatever in Congress any more.

A rather hasty preliminary survey had been made to ascertain the feasibility of a lighter grade, which was verified with an approximate movement of some 600,000 cubic yards of grading and 5,000 cubic yards of masonry. This preliminary survey was made by Col. Charles Buckley as chief of party, but no attention was paid to the five road crossings over the old line in relation to temporary stoppage of traffic, which was afterwards positively denied by the Government after having allowed a reasonable suspension of traffic before. Such denial obliged them to an essential change of location in many parts, with a considerable increase in quantities of movement of ground.

The superintendent certainly has to take a great deal of blame upon his shoulders for not securing binding documents from Minister Barrutia as to temporary suspension. When it was time and when he applied for the same, it was too late to mend matters, leaving them with a difficult engineering problem on their hands, when the crossing and recrossing of the old line could not be avoided in order to obtain a lighter grade, and when these five crossings conditioned to be either at grade or above or below it. The problem was solved very creditably by engineers A. J. Scherzer and W. Moore locating four grade, and one overhead, crossing.

Actual work was commenced on June 1, 1888, and grading finished on December 2, 1889, showing a movement of ground of 837,331 cubic yards, 106 cubic yards of riprap, 9,059.6 cubic yards of first-class pointed rubble masonry.

Not a schedule train of the time card was suspended during the whole construction time. All necessary material was on hand in good opportunity and at the right moment, with exception of the iron-deck truss bridges ordered from Europe. These were delayed for 4 months on account of strikes in England, and this delay was taken in December, 1889, by Minister of Public Works Salvador Escobar as a fresh protest to threaten forfeiture of the franchises.

The time expired really on December 23, 1889, and the line was ready on March 30, 1890, or, say, 3 months behind contract time on account of the delay in the arrival of the iron structures, which was beyond the control of the company. The necessary protests and notifications on this head were made to the Government, claiming exception on *force majeure* and acts of God.

After losing the whole month of April, 1890, without definite action, the Government finally ordered the appointment of an inspecting committee of Government engineers, and upon their favorable report decreed the opening of the line for public service in the latter part of May. This was verified on June 1, 1890, and the service since that day has been carried on strictly to schedule, without missing a single train.

The new construction account is not closed yet, as they still are taking out the old track and bridges, of which the heavy steel is being changed down to lower line, an expenditure which properly belongs to new construction.

EXPORTS AND IMPORTS OF GUATEMALA.

Table showing the exports for 1889.

Articles.		Quantity.	Value.
Sugar	pounds	1,002,426	$50,121.30
Indigo	do	4,775	4,775.00
Oil from trees	do	950	95.00
Dissected animals	do	433	1,000.00
Coffee	do	55,238,905	12,704,948.15
Cocoa	do	2,112	2,112.00
Hides of cattle	do	1,480,684	207,295.76
Hides of deer	do	21,971	8,788.40
Horsehair	do	660	660.00
Images	do	1,523	5,000.00
Rubber	do	169,724	84,862.00
Bones	do	16,838	168.38
Woolen clothing	do	8,714	13,071.00
Soles	do	10,218	3,065.40
Sarsaparilla	do	19,696	5,908.80
Aguardiente	gallons	1,943,360	29,150.40
Bananas	bunches	110,222	44,088.80
Plants	number	128	500.00
Gold coin			1,555.00
Silver coin			16,678.50
Total			13,247,689.80
Total in 1885			6,069,645.82
Total in 1886			6,179,502.91
Total in 1887			9,039,391.26
Total in 1888			7,239,977.38

Table showing the imports for 1889.

Ports.	Quantity.		Value.	Duties.
	Packages.	*Pounds.*		
Northern	58,092	7,364,956	$238,793.84	$177,906.44
Southern	401,204	43,290,832	6,840,579.75	2,522,212.57
Total	459,296	50,655,788	7,079,373.59	2,700,119.01

Table showing the imports by countries in 1889.

Country.	Packages.	Value.
England	84,122	$1,598,762.45
United States of America	220,446	1,331,398.56
South America	1,826	1,207,624.32
France	57,691	920,580.93
Germany	64,735	715,239.65
Central America	5,529	691,857.30
China	607	121,285.20
Spain	7,328	112,459.05
Belgium	7,496	98,732.50
Switzerland	843	85,631.85
Belize	4,769	70,846.92
Mexico	573	62,758.35
The Antilles	1,046	31,564.26
Italy	2,285	20,631.95
Total	459,296	7,079,373.59
Expenses of packing, commissions, insurance, and freight as far as the ports of the Republic		507,287.68
Grand total		7,586,661.27
Total in 1885		3,788,134.90
Total in 1886		3,537,399.38
Total in 1887		4,241,407.91
Total in 1888		5,459,568.64

Table showing the imports by articles in 1889.

Articles.	Value.	Duties.
Vegetable oils	$43,698.25	$37,953.32
Aguardiente, brandy, whisky, rum, and aniseed	90,175.40	132,629.85
Barbed wire for fences	47,545.00	(*)
Cotton (thread and cloth)	1,139,326.35	910,469.55
Firearms	4,694.00	5,835.00
Bars of silver	22,400.00	(*)
Boots and shoes	6,589.09	6,127.32
Cinnamon	14,973.18	12,865.50
Wagons and carts	4,172.50	479.81
Carriages	11,490.00	6,527.00
Barley	6,785.24	780.20
White wax	4,832.46	4,296.69
Beer	27,164.20	24,983.75
Preserves, fruits, cheese, sago, tapioca, confectionery, etc	84,589.77	71,268.91
Glassware and panes of glass	61,322.56	49,857.43
Miscellaneous articles	9,598.39	7,936.74
Drugs and medicines	100,774.25	89,693.17
Stearine in candles and in cakes	28,168.40	3,259.36
Matches	41,653.68	36,986.53

* Free.

Table showing the imports by articles in 1889—Continued.

Articles.	Value.	Duties.
Flour	$155,322.00	$163,487.52
Agricultural implements of iron, iron in bars, sheet-iron, nails, and iron tools for workmen	122,659.35	94,845.67
Wool (thread and cloth)	344,798.44	309,059.43
Linen (thread and cloth)	31,385.45	27,651.30
China	72,791.31	65,265.14
Wood for building	67,598 79	(*)
Machinery for agriculture and fabrile industries	59,176.20	6,805.26
Material for railroads, telegraph, and electric light	526,935.54	(*)
Haberdashery and hardware	71,789.15	62,657.46
Gold coin	59,220.00	(*)
Silver coin	2,849,078.00	(*)
Wooden furniture	12,843.28	15,185.35
Articles for charitable institutions and for public instruction	68,496.76	(*)
Paper of all kinds	53,620.41	22,993.84
Fresh potatoes	7,880.60	(*)
Petroleum	26,354.95	19,768.33
Pianos	15,790.00	9,325.00
Dressed hides	41,263.24	30,074.20
Jewelry and fine watches	81,970.00	9,426.55
Empty sacks	62,350.20	(*)
Common salt	4,678.25	5,189.40
Silk (thread and cloth)	191,205.80	159,592.64
Hats of all kinds	75,591.36	65,330.70
Iron roofs and pipes	28,743.00	3,305.61
Wheat	26,167.39	14,049 80
Utensils for privileged industries	11,485.50	(*)
Wines and sweet liquors	154,670.15	134,159.34
Total	7,079,373.59	2,700,119.01
Costs, charges, commissions, freight, etc	507,287.68	
Grand total	7,586,661.27	

* Free.

REVENUE AND EXPENDITURES.

Table showing the revenue of Guatemala in 1889.

Articles.	Amount.	Articles.	Amount.
Monopolies:		Various revenues:	
Liquors	$1,811,773.17	Fines	$11,433.90
Gunpowder	24,460.50	Matriculations	321.23
Saltpeter	10,553.62	Unclaimed lands	38,442.55
Tobacco	68,970.08	Quitrents	9,784.76
Customs:		Confiscations	1,571.76
Imports	2,700,119.01	2 per cent. monthly from the salaries of Government employés and applied to pension fund	14,260.98
Exports	552,045.43	Sale and exchange of land, etc	3,672.82
Reshipments	1,209.68	Inheritances	2,493.09
Taxes:		Postal service	50,643.51
Paper with Government seal	146,617.97	Telegraph	106,508.36
Stamps	20,815.76	Revision of duties on imports	42,293.70
License for commercial books	6,337.00	Total	6,102,172.92
Stationary property (land, etc.)	114,894.73	General expenses	516,260.60
Exemption from military service	11,412.50	Net revenue	5,585,912.32
Making and repairing roads	102,284.93		
Slaughter-house licenses	165,880.97		
Flour	41,525.57		
Salt	41,845.34		

NOTE.—Deficit in postal service and telegraph of $84,959.45.

Table showing the public debt of Guatemala.

Description.	Amount.	Description.	Amount.
Home debt:		Home debt—Continued:	
Consolidated	$6,495,062.04	Bonds on coffee exportation	$384,188.00
Paper money	1,129,968.00	Notes payable in cash	621,949.37
Consolidated documents not converted into bonds	17,752.86	Total	8,955,690.28
Maturing debts	111,753.00	Foreign debt (£922,700)	4,613,500.00
Convertible into certificates, according to decree No. 421	195,017.01	Grand total	13,569,190.28

Statement showing the customs receipts of Guatemala in 1889.

Guatemala	$1,974,442.79
Retalhulen	485,866.60
Izabal	177,906.44
Champerico	36,477.84
Ocós	25,425.34
Total	2,700,119.01
Total in 1885	1,487,039.63
Total in 1886	1,703,845.84
Total in 1887	2,253,899.86
Total in 1888	2,286,864.69

CHARGES OF THE COMPAÑIA DE AGENCIAS DE GUATEMALA (LIMITED).

PORT OF SAN JOSÉ.

Unloading.

Cloth of all kinds, boots and shoes, hats, small wares, books, paper, wax, preserves, medicines, etc.	per cwt.	$0.50
Furniture of all kinds, fine china in boxes or barrels, carriages, pianos, etc.	do.	.60
Liquors of all kinds, china in crates, glassware in boxes, tin, paints and oils for the same, candles, windowpanes, iron nails, pickaxes, smoothing irons, agricultural implements, rubber or leather belts for machinery	per cwt.	.40
Iron in bars, tires, sheet-iron, axles, wheels, molds for sugar, petroleum, naphtha, telegraph wire, barbed wire, cocoa, tar	per cwt.	.30
Flour, barley, tallow in barrels, maize, rice, lard, empty sacks	do.	.25
Wheat, pitch	do.	.20
Corn, salt	do.	.12
Machinery:		
Less than 1,000 pounds	do.	.30
From 1,000 pounds to 2 tons	do.	.50
From 2 to 3 tons	do.	.75
From 3 to 4 tons	do.	1.00
From 4 to 5 tons	do.	1.25
Every additional ton	do.	.25
Wood for building	per 1,000 feet.	6.00
Gold and jewelry		0⅛ per cent.
Empty iron tanks or barrels	per cwt.	.12½
Potatoes	do.	.18
Horses and cattle	per head.	10.00

Loading.

Cocoa	per cwt	$0.30
Coffee, lead	do	.25
Cochineal	do	.40
Indigo, rubber, deerskin, calfskin	do	.50
Brown sugar	do	.12½
Hides	do	.10
Woolen clothing and other merchandise	per cubic foot	.15
Ballast and water	per ton	4.00
Passengers with 100 pounds of baggage	each	1.00
Excess of baggage	per pound	.01
Horses and cattle	per head	10.00
Wood in planks	per 1,000 feet	6.00
Aguardiente	per cwt	.20
Gold		0⅛ per cent.

Commissions.

Receiving and dispatching vessels	32.00
Contracts for freight, etc.	2½ per cent.
Collecting	2½ per cent.
Invoicing	.25

Franking bills of lading and stamps, according to the tariff of the Government.

Examination of goods.

Bales of cotton	each	.12
Boxes of merchandise	do	.25
Machinery, flour, liquors, oil	do	.05
Iron in bundles	do	.05

Articles not specified will be adjusted to the foregoing charges.

WHARF RATES AT SAN JOSÉ.

Imports.

(1) Merchandise, furniture, pianos, musical instruments, carriages, iron safes, hops, and all other articles not specified in this tariff	per cwt	$0.50
(2) Wines, liquors, oil, cocoa, alcohol, beer, petroleum, paints, turpentine, medicinal waters, tallow, and grease	per cwt	.30
(3) Iron in the rough, ironware, china, flour, glassware, machinery, tar, cement, carts, wheels, doors, windows, manure, salt, lime, and bricks	per cwt	.25
(4) Naphtha in iron tanks	do	.20
(5) Wheat, barley, corn, rice, beans, and other cereals; hay, oats, bran, pitch, empty sacks for exporting fruit, wood for building, coal, and potatoes	per cwt	.12

Exports.

(1) Cochineal, indigo, and woolen clothing	do	.50
(2) Cocoa, rubber, quinine bark, sarsaparilla, vanilla, deerskin, goatskin, calfskin, soles for shoes, plants, skins of birds, machinery, hardware, mineral specimens, and all other articles not specified in this tariff	per cwt	.32
(3) Coffee	do	.25
(4) Rice, corn, beans, and other cereals; horn, lead, and metals of small value; fruit, potatoes, and provisions of all kinds; hay, oats, bran, and barley	per cwt	.12
(5) Sugar, fine and coarse	do	.05
(6) Wood of all kinds	per 1,000 feet	3.00
(7) Undressed skins	each	.08

Imports and exports.

Horses	per head	$4.00
Cattle	do.	2.00
Small animals and dogs	do.	1.00
Birds in cages	per cage	1.00
Passengers with 100 pounds of baggage	each	1.00
Baggage in excess	per cwt	.50
Wood, ballast, water	per ton	1.00

For ships.

Captains who wish to make use of the wharf for themselves or crews will pay as follows:

Ships of 100 tons or less	$6.00
Ships of from 101 to 200 tons	10.00
Ships of more than 200 tons	16.00

FREIGHT RATES OF THE CENTRAL RAILROAD OF GUATEMALA.

NOTICE.

The managers of the Central Railroad of Guatemala reserve the right to increase the prices in the following tariff (within the limits of their concession) or to reduce the same in all or in part, according to circumstances.

IMPORTS.

First class.—For the entire distance from the port of San José to the city of Guatemala, $1.50 per cwt., $30 per ton of 2,000 pounds.

Jewels and jewelry of all kinds, harness, chandeliers, bran, turpentine, trunks, barrels or casks, boxes, baskets, empty demijohns and glass vessels, buckets, valises, billiard tables (not set up), painters' brushes, pictures, mattresses, beds, wagons in sections, baby carriages, cinnamon, boots and shoes, dressed leather, wax (crude or manufactured), metallic cartridges, brushes, horsehair, cork, drugs, statues, baggage without declared value, rifles and firearms of all kinds, brooms, spices, looking-glasses of all kinds, macaroni, Chinese lanterns, matches, cages, toys, scientific or musical instruments, lamps, miscellaneous parcels, lanterns, hops, furniture in sections, marble, moldings, light machinery (not exceeding 200 pounds), wicks; materials for telegraph, telephone, and electric light; samples, umbrellas, parasols, perfumery, Venetian blinds, mattings, combs, live plants, feather dusters, boilers (up to 20 gallons), clocks, wheels, scales, saddles, ready-made clothing, chairs in sections, hats, tea urns; kitchen utensils of iron, copper, tin, or any other kind of metal; vélocipedes, zarrandas, and money at one-fourth of 1 per cent., under the unalterable condition that the consignee binds himself to receive every remittance immediately upon the arrival of the train at its destination, the managers refusing to hold themselves responsible if this condition is neglected.

Second class.—For the entire distance from the port of San José to the city of Guatemala, $1.25 per cwt., $25 per ton of 2,000 pounds.

Groceries, sugar, quicksilver, mineral waters, rice, oils of all kinds for lighting, olive oil, machine oil, and oil for painting (excluding castor oil, cod-liver oil, oil of almonds, and copaiba oil, which are drugs), starch, brass in bars, blacking, varnish, buttons, pitch, preserves, eatables, provisions, sperm and wax candles, hemp, beer in boxes or barrels, glassware and crockery in boxes, chocolate, copper in bars or plates, confectionery, tin in bulk, tow, stoves, hardware of all kinds that are not specified, belts for machinery, dried or preserved fruits, cloth of all kinds; articles manufactured of cotton, wool, linen, silk, or mixed; kerosene oil, grease, yarn for knitting, thread, forms for shoes, cane work, books, tin in sheets, brass in sheets, lard, butter, machinery weighing more than 400 pounds and less than 4,000 pounds or of 40 cubic feet, ammunition, maizene, molds for sugar, playing cards, writing paper, writing materials, paints, paper for printing, wrapping paper, wall paper, petroleum, presses of metal or wood, doors, ironmongery, tobacco in raw material or manufactured, windows and blinds, agricultural implements, plain glass, wines and liquors of all kinds, chalk, zinc in bars or sheets.

Third class.—For the entire distance from the port of San José to the city of Guatemala, $1 per cwt., $20 per ton of 2,000 pounds.

Cotton in raw material, hard and soft coal, wood prepared for houses, cement, stearine or sperm in cakes, bricks, manure, flour, ice, common soap in boxes, corn, slates for roofs; lead, iron, and steel in bars, ingots, packages, or sheets; empty sacks. Flour by entire carload of 200 cwts. will be taken at the rate of $18 per ton for the 75 miles.

Special classes.—Importation, exportation, and local, according to special agreement.

Animals of all kinds, horse cars set up, carriages, pianos, billiard tables set up, furniture set up, articles of more than 40 cubic feet or 4,000 pounds, tiles and shingles, kindling wood, wood in the rough, barges or small boats, baggage without declared value, dynamite, gunpowder, fulminants, sulphuric acid, muriatic acid, nitric acid, and other inflammable and dangerous substances. Wheat and barley at $17 per ton for the 75 miles.

The managers reserve the right to charge by the cubic foot on any of the different classes, by special measure and agreement, any package that does not weigh at least 30 pounds.

Notices.

Every package that arrives at the port manifested simply as merchandise will pay first-class tariff, and in no case will a reduction be made, even though it may be proved afterwards that the respective contents belonged to the second or third classes.

No remittance will be made for less than 25 cents. Baggage and all accounts for freight less than $4 will be charged in advance.

Every package which is found in imperfect condition must be repaired at cost of the sender before its being admitted into the trains; and, if that is not possible, the simple mention in the manifest that the package is found to be in bad condition will relieve the managers of the railroad from all responsibility.

EXPORTS.

Products of the country from Guatemala to the port of San José.

Oils of the country, starch, indigo, cocoa, cochineal, seeds, sarsaparilla, rubber, unbleached wool, live plants, and grains not specified	per cwt.	$1.00
Hides or skins in packs, fibers, ramie, tobacco	do	.75
Corn, beans, mineral waters	do	.50
Coffee	do	.60
Sugar, rice, mineral specimens	do	.40
Curiosities of the country	do	1.50
Loose hides	each	.20

Money at one-fourth of 1 per cent. under the unalterable condition that the consignee binds himself to receive every remittance immediately upon the arrival of the train at its destination, the managers refusing to hold themselves responsible if this condition is neglected.

Animals, dangerous freight, and freight of more than 40 cubic feet or 2 tons, according to special agreement.

Baggage without declared value will pay according to tariff of first class of imports.

Table showing the exports of coffee from the port of Livingston during the quarter ended December 31, 1890.

Destination.	Quantity.	
	Bags.	*Pounds.*
Boston	781	134,972
Hamburg	529	62,879
London	587	74,229
New Orleans	19	2,520
New York	380	52,274
Havre	10	1,150
Total	2,306	328,024

SAMUEL KIMBERLY,
Consul-General.

United States Consulate-General,
Guatemala, January 15, 1891.

PERUVIAN PETROLEUM.

REPORT BY MINISTER HICKS, OF LIMA.

The refined kerosene manufactured by the London and Pacific Petroleum Company at Talara, near Paita, in northern Peru, has so far displaced the American article that it is now impossible to purchase anything but the Peruvian kerosene in Lima. The first shipment to this market from Talara was made in December, 1889, and now almost the whole west coast of South America is supplied with the Peruvian article. The London and Pacific Company is rapidly extending its works and increasing its manufacturing capacity, besides extending its shipping facilities by the purchase of more steamers. Ultimately it is the design of the company to extend its trade to Japan, China, and the Hawaiian Islands, where it is almost certain to come in conflict with the American article.

Besides the London and Pacific Company, another company, owned principally by F. G. Piaggio, at Callao, is operating an establishment at Zonitos, near Talara, and its product is also on sale in this market.

Three new companies have been organized in London since January 1, 1891, with large capital, for the purpose of working these petroleum beds between Paita and Tumbez, and this industry promises to become the most important in Peru.

While the Pennsylvania and Ohio oil region is confined to somewhat narrow limits, the Peruvian oil fields are said to cover an extent of 7,500 square miles.

JOHN HICKS,
Minister.

United States Legation,
Lima, April 27, 1891.

HARVEST PROSPECTS IN FRANCE AND EUROPE.

REPORT BY COMMERCIAL AGENT GRIFFIN, OF LIMOGES.

FRANCE.

The National Millers' Association of France has just issued an estimate, founded on very carefully collected data, of the probable wheat harvest of France and Europe for 1891. In order to meet the demand of France until the harvest is gathered in 1892, it is necessary to see how much wheat was yielded by the crops of 1890 and the quantity imported.

The official figures of the yield for 1890, as given by the minister of agriculture, are 119,436,827 hectolitres.* There is a monthly consumption of 9,000,000 hectolitres, requiring for a year's supply 108,000,000 hectolitres; about 15,000,000 hectolitres are used for seed; so that the present average need of wheat in France per annum is 123,000,000 hectolitres. This year there must be added to this amount 5,000,000 hectolitres, which is required for resowing where the grain had been frozen or injured, making a total for this year of 128,000,000 hectoliters.

	Hectolitres.
Crop of 1890	119,436,872
Importations up to April 30, 1891	11,929,849
Total	131,366,721
Consumption for 9 months, including seed	101,000,000
On hand to meet demand up to August, 1891	30,366,721
3 months' consumption	27,000,000
Balance	3,366 721

The estimated yield of wheat for 1891 will be 82,779,000 hectolitres if the weather and all other conditions are favorable. This is the maximum estimate; it will be 31 per cent. less than the harvest of 1890.

	Hectolitres.
Annual consumption	123,000,000
Probable harvest	82,779,000
Deficit to be supplied by importation	40,221,000

The average price paid for wheat under favorable circumstances is 23 francs per hectolitre; consequently the sum of 925,000,000 francs will be spent during the next 12 months for wheat.

EUROPE.

The production of Europe† in 1890 and the estimated production of 1891 are as follows:

	Hectolitres.
Production of Europe in 1890	225,000,000
Estimated production in 1891	111,000,000
Deficit to be supplied by foreign countries	114,000,000

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* 338,961,715 bushels, the hectoliter being equal to 2.838 bushels.

† Production of Europe outside of France.—*Note by Department.*

Russia, Tunis, Egypt, Roumania, and some of the Danubian provinces will have a fair harvest; in Hungary it will be below the average this year.

The estimates given by the millers are optimistic. The desire to create an impression that there is a better supply than really exists is all done with a purpose; they want to buy grain as cheap as possible in those fortunate countries that have of their abundance to export.

In 1890 7,148,878 hectares (17,687,737 acres) were sown with wheat, and the average yield was 16.7 hectolitres per hectare; 15,000,000 hectolitres were used for seed; making not quite 8 bushels for 1 bushel.

Not only France, but all Europe turns longingly toward the wheat fields of the United States. Last year many hoped that South America would help supply the deficit, especially the Argentine Republic, but to-day no mention is made of those countries; all hope is built upon our harvest. The facts, as recently stated, are that the bread of Europe must come from the United States.

WALTER T. GRIFFIN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Limoges, June 23, 1891.

TIN-MINING IN THE STRAITS SETTLEMENTS.

REPORT BY CONSUL WILDMAN, OF SINGAPORE.

The passage of the new tariff law, which placed a duty on tin plate, has had a beneficial effect on the tin-mining of the Malay Peninsula insomuch as it increased the demand for pig tin in the United States. Formerly the tin that was destined for tin plate to be used in the United States was shipped in large quantities to different parts of the United Kingdom, where it was manufactured into tin plate and the plate exported to the United States instead of the raw material.

With the duty on tin plate this industry became less profitable to the English manufacturer, and, instead of shipping the manufactured article, the export of pig tin direct has in a great measure taken its place. In other words, pig tin is now going direct to the United States instead of by the way of Great Britain.

According to statements made by the governor of the Straits Settlements, this consular district mines half of the tin of the world. The export of tin from the Straits Settlements to all countries for the year 1889 amounted to $23,254,023.

The mining of tin forms one of the chief industries of this peninsula, and is carried on principally in the native state of Perak, north of Singapore. The mining is done almost entirely by the Chinese.

The mining is that of flood tin, not rock, and this means that it is taken from the lowlands near the mountains, where it is found in seams or pockets 10 to 20 feet or more below the surface level in the shape of, or appearing like, coarse black sand, with here and there a mixture of tin and small particles of gold (dust). To get at the placer tin means a great upheaval of soil, pumping of water from the pits, the washing of the exhumed stream tin, and the smelting of the latter. In most places the pumps, washing apparatus, and smelting furnaces are of the most primitive and simple, yet ingenious, character. The ore is smelted into slabs of irregular shape at the mines and sent to Penang and Singapore to be resmelted into marketable slabs or blocks and, at the same time, purified, and then shipped.

The tools used by the natives are very poor and simple, consisting of only a common hoe and a small, flat cane basket. With these the whole of the work is done. A basket, when full, holds about 4 pounds of earth. One of these baskets is placed at either end of a stout bamboo pole, balanced over a laborer's shoulders, carried off, and emptied, while the men with the hoe scrape together more soil and fill other baskets. The washing of the tin is done much in the same manner as our early miners washed for gold dust. The ore is found in Laroot (Perak) in large quantities in a stratum of whitish clay, which is washed in long open troughs, water passing through it, carrying off the soil, leaving the ore lodged against cleats nailed on the bottom of the trough.

The English and German companies now engaged in tin-mining do not take the trouble to smelt the ore at the mines, but ship the sand to Singapore, where large smelteries have been erected.

The price of tin has been quite firm since the passage of the new tariff law, fluctuating slightly between about $31.25 in August, 1890, and $32.80, the present price, per picul (133⅓ pounds).

The quantity and value of tin from the Straits Settlements that finds its way to the United States can hardly be correctly ascertained by the quarterly reports of the colony; for, as I have before pointed out, large quantities of tin, as well as other produce destined for the United States, are shipped via London and Hongkong for reshipment, and consequently are not placed to the credit of the United States. However, the tin that went direct to the United States for the quarter ended September 30, 1890, amounted to $1,157,323, against $4,921,326 credited to the rest of the world, while for the quarter ended December 31, 1890, it amounted to $1,217,930 (an increase of $60,607 over the preceding quarter), against $5,626,009 credited to the rest of the world, of which $2,306,921 went to the United Kingdom.

About one-tenth of the carrying of tin between this port and the United States is done in American bottoms. The firms shipping from here are English and German. There is no American capital engaged in the production or exportation of tin, although the United States is such a heavy buyer.

In my judgment, if an American house were to be established in Singapore, it would control at once not only all the shipments of tin to the United States, but the shipment of nearly all of the $11,000,000 of exports from the Straits Settlements to the United States.

ROUNSEVELLE WILDMAN,
Consul.

UNITED STATES CONSULATE,
Singapore, May 12, 1891.

AN OPEN ROAD TO TRADE WITH SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

It would be highly gratifying to meet here a few active Americans whose object would be the introduction and sale of American goods. I say it would be highly gratifying, for I have an abiding faith that such men would be the pathfinders of a magnificent market for American products. Within the last few months two lines of steamers have been established between Cadiz and New York, the New York agents of which are Hagemeyer & Brunn. A few days ago one of them brought to this port several hundred barrels of American flour and several saloon passengers, all American tourists.

While thinking this over, it occurred to me that some of our enterprising exporters could send a few live, Spanish-speaking business men over here by one of these steamers. They could spend a few weeks in Lisbon (the steamers call there), and, after prospecting in Portugal, come to Cadiz and do profitable work. When through working this part of Spain, they might return to New York by way of the Azores, where, I have no doubt, something could be done. The exporters, who would find the acceptance of this invitation profitable, should send men prepared to introduce some or all of the following articles: Staves, agricultural implements, petroleum, furniture, drugs and patent medicines, canned goods, breadstuffs, meats, household novelties, rubber goods, cotton goods, hardware and cutlery, machinery, paper, etc.

If this proposition seems quite experimental to an exporter of any one of the articles named, why can he not unite with the exporters of other nonconflicting commodities and jointly make the experiment? Or, better still, let the exporters of the goods named form a syndicate to make a thorough test of this suggestion.

It is not my intention to give any figures; those who care for amounts, values, tariffs, etc., are referred to a former report. All I desire to say is that Spain is buying large quantities of goods of other nations that we should and can sell her, but that we can not do it without making an effort.

If American salesmen do come, they should be prepared to explain everything regarding discounts, time, exchange, and just what it will cost to put the goods in the merchant's warehouse or on the shelf of his store, freights and duties paid. The question as to whether the goods are to be paid for before or after they are received is not an unimportant one and should be well understood.

Shortly after the publication of one of the reports from this consulate, a letter was received from a meat-packing firm having extensive interests in Kansas City and Chicago. They asked for the names of merchants who might be induced to handle their goods.

Some time later I was informed by a Cadiz merchant that he had made a trial order for lard, hams, shoulders, and canned meats. He sent his order to Kansas City, and the goods were sent from New York, at which place the firm has an office to attend to export business. Much to his surprise, he was drawn on for the amount of the order as soon as the bill of lading issued. At that time nearly all goods came by way of England (the greater part still do), and on this account he was made to pay for his goods from 30 to 40 days before he received them. He paid the draft, said nothing, but resolved to have matters better understood next time. The meats and prices proved satisfactory, and he decided to give a larger order. In the meantime the lines of steamers heretofore mentioned were established, and, after having it understood that the seller was to draw on bill of lading at 30 days' sight, he ordered 200 barrels of hams and shoulders, 100 cases of lard, 100 cases of canned meats, etc., requesting that it be shipped to Cadiz by the direct route. In this way he expected to get the goods before the draft became due. This was made September 25 last. Contrary to instructions, the goods were sent via England, as was the first order. They were delayed in transshiping, and reached Cadiz on February 20, 60 days after he had paid the draft, which had been drawn at 30 days' sight, payable at Paris, and attached to bill of lading. He was thus compelled to send orders to his Paris bankers to pay it almost as soon as it was presented, in order to get possession of the bill of lading. This, however, was not the worst, for a new tariff on meats, lards, etc., went into effect January 1, and he was forced to pay a duty that was increased on lard, bacon, and hams from $3 to $10 per 100 kilogrammes. He then sold the goods to retail dealers (he is a wholesaler) and waited from 2 to 6 months for his money. The payment of the increased duty could have been saved had the goods been shipped from England prior to January 1. When this order was given the dealer here was quite enthusiastic about working up a jobbing business in American meats. It is needless to add that his experience acted as a cold bath to his enthusiasm, and that it was an experience largely brought about by the indifference and shortsightedness of the New York branch of the packing firm.

But such things need not happen, and will not if American agents are on the ground. It is mentioned to show, first, that great care should be taken to follow instructions in filling orders received, both as to the route of shipment and the method of settling the account; second, that agents who come here to do business should come fully empowered to arrange and smooth away all like difficulties that may be presented for consideration when business is solicited.

Spain is buying what we sell, and I am sure that no sane business man can long doubt that if a magnetic, Spanish-speaking American salesman were here on the ground orders could be secured. For instance, there is a house in Seville called "Bazar Sevillano;" it has several branch establishments. I passed one of its places of business in Calle Tetuan in the evening just as the front shutters were being pulled down. The shutters were made of corrugated sheet-iron, and you can imagine my surprise when I saw painted on one of them an American flag with forty-two stars. These people advertise

American goods and paint the flag on their shutters to give color to their advertisement. In reality the greater part of their so-called American goods are German imitations. American goods are popular, hence the advertisement.

But the question that naturally suggests itself is, how hard would it be, under such circumstances, for the right kind of salesmen to get an order for genuine American products from this firm and others of like tendencies? Good agents can rapidly develop trade with this country, and those interested will find facts and figures awaiting their investigation and study.

The cost of reaching Cadiz from New York would be from $50 to $70, and perhaps steamers interested in the carrying trade would make special rates to salesmen. Hotel first-class rates are $2.50 per day; railroad fare, first-class about 5½ cents per mile, second-class 4 cents, and third-class 3 cents. Rates on coasting vessels are very much cheaper.

It might be well to call the attention of commission men and importers to the products exported from here to the United States. These are wine, olives, olive oil, cork, licorice root, licorice paste, goatskins, rags, figs, brandy, canary seed, cupreous sulphur ore, fining earth, lead, paintings, raisins, soap, antiquities, etc. In this connection it might be stated that the Seville pottery works sell large quantities of their goods to American tourists each year. These goods, like many others, are sent by their purchasers to Paris or Liverpool, there to be packed for shipment to the United States with articles bought in other European cities. The sales of Spanish lace are also large, but, as it becomes wearing apparel almost as soon as it is bought, it is neither invoiced at Seville nor entered at the custom-house when it arrives in the United States. These things could be profitably imported.

But it is needless to enumerate. Come over and see what can be done, and be assured that this consulate will be pleased to render any assistance in its power to Americans who come here to develop trade.

Before closing I might add that the time should soon come when American tourists will land in Europe at Cadiz, and from there commence their journey through the Continent, returning to the United States by way of England.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, May 18, 1891.

Rice in Brazil.—A report upon the cultivation and growth of rice in this consular district would not contain any suggestion of importance to the rice-growers of the United States. Though the lands are adapted to such growth, it is not carried on to any extent. Small patches can be seen here and there only for immediate consumption. The state of cultivation is very rude. None is grown for export, but a very large quantity is imported, chiefly from the Old World.—O. H. DOCKERY, *Consul-General, Rio de Janeiro, February 16, 1891.*

FOREIGN TRADE OF GERMANY.

REPORT BY CONSULAR CLERK MURPHY, OF BERLIN.

German official trade statistics for the year 1890 disclose the following facts, which may be of practical interest:

RAILWAY CARS.

Railway cars, the only article subject to ad valorem duty under the German tariff, were imported in 1890 to the number of 392, valued at 935,000 marks. Of these 361 were imported from Belgium. In 1889 only 58, reappraised at 108,000 marks, were imported. There were exported 922 cars, valued at 2,436,000 marks. Of this number, 384 were sent to Italy, 28 to Holland, 83 to Bulgaria, and 63 to Turkey. The number exported in 1889 was 1,682 (1,122 to Italy, valued at 5,484,000 marks). In 1889 Russia took 250 cars; in 1890 it took only 1. In 1890 3 cars, valued at 5,000 marks, were imported from the United States.

WATCHES.

The total number of watches imported in 1890 was 1,150,090 (1,116,350 in 1889). Of these 1,067,455 were supplied by Switzerland, the United States supplying only 413. The total number of watches exported was 38,827 (25,630 in 1889), 68 being exported to the United States. The chief takers were Russia (10,381), Great Britain (7,221), and Belgium (6,952). Venezuela took 120 gold watches and Mexico 913 silver watches. Chile took 750, Mexico 825, and Peru 671 watches in cases other than gold or silver.

HERRING.

Of salt herring, 1,256,286 barrels were imported and 724 exported. The corrected number for 1889 was, respectively, 1,208,986 and 1,097. The chief suppliers of this demand were Great Britain (568,263 barrels), Holland (334,352 barrels), and Norway (279,445 barrels). The United States furnished only 2 barrels and received in return 105 barrels.

STRAW HATS.

Of untrimmed straw hats, 363,486 were imported (422,903 in 1889) and 2,755,050 were exported (2,844,403 in 1889). The chief suppliers were France (126,501) and Italy (120,156). The chief takers were France (1,655,783), Holland (442,865), Denmark (162,080), and Switzerland (108,760). The United States supplied 112 and received 2,884. Of trimmed straw hats, etc., 45,580 (in 1889, 40,781) were imported and 608,909 (in 1889, 545,952) exported. The chief sources of supply were France (14,243), Austria (10,946), Switzerland (5,589), Holland (5,369), and Great Britain (4,535). The chief markets of sale were Holland (132,065), Norway (54,409), Brazil (34,790), British India (33,608), Chile

(68,051), Sweden (24,382), Russia (26,100), Belgium (19,869), Switzerland (19,474), Denmark (13,245), and Austria (11,148). The United States supplied 18 and received 4,867.

LIVE ANIMALS.

In the year 1890 1,120,619 animals were imported (in 1889, 699,543), as follows:

Animals.	Number.	Animals.	Number.
Horses	83,506	Calves (under 6 weeks of age)	15,059
Cows	106,545	Hogs	596,823
Steers (bulls)	5,515	Pigs (under 10 kilogrammes in weight)	235,546
Oxen	15,538	Sheep	2,801
Young cattle (under 2½ years of age)	58,304	Lambs	982

Of these, the United States supplied 97 horses, 71 cows, 11 bulls, 13 oxen, 532 young cattle, 7 calves, and 2 hogs. Of the horses, Russia supplied 23,960; Belgium, 18,054; Denmark, 14,113; Austria, 10,641; France, 8,081; and Holland, 6,718. Of the cows, Denmark supplied 38,048; Austria, 28,488; Holland, 18,221; Switzerland, 14,678; and France, 6,664. Of the steers, Denmark supplied 3,696; Sweden, 861; and Austria, 490. Of the oxen, Austria supplied 12,485; Denmark, 1,281; France, 798; and Italy, 665. Of young cattle, Denmark supplied 22,386; Austria, 14,738; Switzerland, 5,676; Holland, 9,454; and France, 4,350. Of the calves, Switzerland supplied 11,102; France, 1,838; and Austria, 1,362. Of the hogs, Holland supplied 200,712; Austria, 161,628; Denmark, 111,717; France, 45,664; Italy, 28,458; Belgium, 27,511; Great Britain, 14,869; Russia, 4,019; and Switzerland, 2,201. Of the pigs, Holland supplied 171,264; Belgium, 45,189; France, 12,757; Switzerland, 4,317; and Italy, 1,357. Of sheep, Denmark supplied 1,464 and Great Britain 1,128. Of lambs, Denmark supplied 600 and Austria 260.

Animals were exported to the number of 434,900 (in 1889, 656,630), as follows:

Animals.	Number.	Animals.	Number.
Horses	9,532	Calves (under 6 weeks of age)	2,136
Cows	3,032	Hogs	4,326
Steers (bulls)	253	Pigs (under 10 kilogrammes in weight)	3,896
Oxen	4,466	Sheep	398,820
Young cattle (under 2½ years of age)	3,623	Lambs	4,816

Of these, the United States received 103 horses and 4 sheep.

The chief takers of horses were Switzerland (2,780), Holland (2,154), Austria (1,100), Belgium (1,029), France (771), and Denmark (627); of cows, Switzerland (2,430); of steers, Switzerland (197); of oxen and young cattle, Switzerland (4,384 and 3,200, respectively); of calves, Austria (1,927); of hogs and pigs, Switzerland (4,017 and 1,397, respectively); of pigs

Austria took 2,472; of sheep, Belgium took 162,178 and Switzerland 33,270; of lambs, Belgium took 3,557 and Great Britain 1,165.

Table showing the imports and exports of animals.

Animals.	Imports.		Exports.	
	1890.	1889.	1890.	1889.
	Number.	*Number.*	*Number.*	*Number.*
Cows	106,545	93,241	3,032	5,227
Steers	......	......	253	615
Oxen	......	......	4,466	5,057
Young cattle	58,304	48,243	3,623	5,049
Calves	......	......	2,136	4,201
Hogs	596,823	327,649	4,326	10,122
Pigs	235,546	108,084	3,896	9,697
Sheep	2,801	1,341	398,820	597,972
Lambs	......	......	4,816	9,217

Exportation of every sort of animal, except the horse, decreased.

It will be observed that only in the case of sheep and lambs did the exportations exceed the importations. The German official statistics do not show a result in this branch flattering to our trade. In 1889 of 177,647 cows, steers, oxen, young cattle, and calves we supplied 1,613, or nearly 10 per cent. In 1890, however, German official statistics show that of 200,961 such animals which crossed the German customs frontier into Germany only 634 (less than one-third of 1 per cent.) came from the United States.

With the exception of the above articles, all wares imported into Germany are subject to weight duty.

The following tables show in detail Germany's foreign trade in the year 1890:

Table showing the imports into Germany from foreign countries in 1890.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Asphalt	270,600	539	0⅕	15,552	18,780	......
Bran, rice waste, etc.	3,185,949	18,251	0½	......	152,417	785,659
Candles	1,650	......	......	......	......	272
Cement	222,361	1	......	56,170	......	78,417
Clothing and underclothing	3,254	64	2	835	692	657
Coal	110,631,917	7	......	......	32,563,971	70,722,675
Cotton:						
Raw	2,506,408	1,251,447	50	......	86,721	78,519
Yarn	188,164	......	......	......	162,488	......
Wares	14,273	47	0⅓	1,385	10,361	......
Drugs, chemicals, and colors	7,701,948	229,266	3	......	......	......
Dyewood	......	......	11	......	......	......
Dyewood extracts	......	......	25	......	......	......
Superphosphates	......	......	3	......	......	......
Turpentine oil	......	......	50	......	......	......
Bone black	......	......	15	......	......	......

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
	100 *kilos*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Flax, hemp, and jute	1,834,966	1,052				
Flax	606,912					
Hemp	518,669					
Jute	709,385				144,511	
Fowl and eggs	725,934	1				
Fowl	185,217					55,199
Eggs	540,717					323,869
Fancy wares, clocks, etc	1,699	46	3	445	299	418
Glass and glassware	135,401	45				42,327
Grain and agricultural products	37,649,562	4,456,402	11			
Wheat	6,723,444					
Rye	8,762,144					
Oats	1,876,116					
Buckwheat	253,713					
Barley	7,349,670					
Indian corn	5,619,322	3,665,979	65			
Potatoes	987,814	(*)	(*)			134,031
Groceries, wines, etc	5,786,782	250,234	4			
Beer	270,609	171				246,566
Arrack, cognac, and rum in casks	47,084	494	1	23,502	5,014	
Alcohol	659			621		
Other brandies and whiskies	4,462	36	1	2,324		
Wine and must in casks	708,019	1,099		320,349		137,517
Champagne	21,331	14		20,936		
Wine in bottles	7,779	49	0⅝	4,865		
Butter and margarine	89,029	16,797	19			30,217
Fresh slaughtered beef	242,528	55,838	23			40,509
Fish, salt, dried, etc	94,140	741	0¾			
Tropical fruits	218,222	42				33,455
Currants	101,128	39				7,562
Raisins	163,273	150				26,362
Dried almonds	48,597	[illegible]		3,067		3,579
Pepper, black and white	42,727	47			14,088	
Coffee, raw	1,180,795	4,612	0⅓			
Cacao beans, raw	62,467	3,374	5	4,500	7,221	
Cheese	88,345	95		5,613		
Chicory	13,407			10,586		
Dried fruit and berries	[illegible]	24,631	9	9,811		169,433
Chocolate, etc	7,440	1		1,600		
Dextrine, etc	1,270	13	1			666
Potato flour and starch	[illegible]					
Other starch	5,939	1,729	3		1,292	
Bakers' wares	1,661	28	1⅔			464
Grits, etc	16,259	316	2	13,581		
Flour and meal	142,415	2,241	1½			135,149
Rice	932,145	1,003				
Salt	266,534	58			226,795	
Molasses	1					
Starch, sugar, maltose, etc	46					–
Sirup from sugar manufacture	26,465	2,814	10		20,718	

* Importation of potatoes from the United States is prohibited.

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
Groceries, wines, etc.—Continued.						
Tobacco:	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Leaves, unworked	443,397	102,651	23			
Stems, ribs, and chewing	31,302	30,425	97			
Cigars	3,810	126	3⅓			
Leaves entirely or half stripped	352	32	10			
Smoking	4,173	64	1½			
Tea	19,944	1			5,709	
Crystallized starch and fruit sugar, etc	89	56	62			
Sugar	59,894	380	0⅔		19,329	
Guano (except mineral)	479,954	9,120	2			
Hair, feathers, and bristles	103,066	1,044	1			
Feathers	61,596					27,359
Bristles	27,109					
Hair						1,533
Hides and skins	833,863	44,645	5	81,379	55,232	35,434
Hops	13,520	14				13,131
Leather and leather goods	95,968	3,886	4		40,110	
Fine leathers*	6,468					4,073
Gloves	1,159					901
Linen, jute, and manilla yarn, thread, and rope	134,479	27			15,758	67,067
Linen yarn	110,400				7,621	66,088
Linen goods	10,650	32	0⅓		5,378	2,917
Machines and instruments:						
Pianos, organs, etc	754	74	10	445	74	
Other musical instruments	2,798	690	24			999
Locomotives and stationary engines	27,212				19,347	5,214
Sewing machines and parts thereof	29,510	8,959	30		16,769	2,641
Steam-boilers	5,067	12	0¼		1,612	
Other machines and parts thereof	506,588	22,569	4	34,278	302,379	13,128
Metals and metal wares:						
Iron	20,115,162	9,023				
Ore	15,221,808	226		805,934		1,007,128
Wares					3,441,664	
Copper, etc	343,137	13,731	1			
Copper ore	314,084	3,225		4,499	246,572	
Quicksilver						2,688
Copper wares				9,290	5,874	4,610
Lead	135,498	13			22,436	
Tin	90,068	372	0⅓		39,174	
Zinc	87,065	53			22,564	9,211
Petroleum	6,460,735	5,489,887	85			53,727
Mineral grease	523,093	144,778	28		46,860	
Oils and fats	2,038,894	835,539	41		433,272	
Lard	910,277	755,739	83			
Paper and paper wares	216,746	230				71,406
Pottery, porcelain, etc	2,085,852	271				
Bricks—						
Building	1,523,375					391,653

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
Pottery, porcelain, etc.—Continued.						
Bricks—Continued.	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Fire	512,252				318,604	
Pottery					8,731	14,821
Porcelain	7,175			1,107		4,383
Rags	270,069	966	0⅓	38,259	17,615	
Rubber and gutta-percha wares	38,895	494	1¼		17,096	
Silk	40,[illegible]	2		5,272		
Silk goods	5,630	5		2,874		
Slate	686,949			67,725	478,619	35,730
Tar, pitch, and turpentine	1,079,91[illegible]	506,489	47	84,176	107,510	
Turpentine	722,[illegible]	506,377	70			
Wood and wooden wares	34,180,217	532,450	1½			
Raw cork	80,011					
Tanning bark	1,034,499			289,923		576,202
Building timber, etc						11,103,028
Manufactures	225,4[illegible]6	12,418	5			57,836
Wool	1,5[illegible]2,580	8,103	0½			
Artificial	122,400	22			47,636	12,923
Sheep	1,[illegible],051	8,007	0½		269,011	
Woolen goods	17,[illegible]35	32	0⅛	2,500	11,434	1,072
Yarn	1[illegible]4,0[illegible]	74		10,844	128,643	5,900
Total	243,113,[illegible]42	13,830,720	5½			

Articles.	Holland.	Belgium.	British India.	British Central America.	Switzerland.	Italy.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Asphalt				95,868	89,290	14,836
Bran, rice waste, etc	[illegible],047	17[illegible],7[illegible]				
Candles	1,704					
Cement	33,1[illegible]				21,867	
Clothing and underclothing	4[illegible]8					
Coal	[illegible],147,411					
Cotton:						
Raw		378,443	500,596			
Wares					1,449	
Drugs, chemicals, and colors (dyewood)				115,864		
Flax, hemp, and jute:						
Hemp						106,348
Jute			574,[illegible]11			
Glass and glassware		60,5[illegible]				
Grain and agricultural products (potatoes)	281,612	110,2[illegible]1				
Groceries, wines, etc.:						
Arrack, cognac, and rum in casks	6,162			7,404		
Butter and margarine	12,144					
Fresh slaughtered beef	32,9[illegible]					
Fish, salt, dried, etc	[illegible],23[illegible]					
Tropical fruits						55,690
Currants	14,2[illegible]1					

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Holland.	Belgium.	British India.	British Central America.	Switzerland.	Italy.
Groceries, wines, etc.—Continued.	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Raisins	11,596					13,628
Dried almonds						32,205
Pepper, black and white	2,775		22,318			
Coffee, raw	286,849					
Cacao beans, raw	3,543					
Cheese	38,155				40,920	
Chicory	1,581					
Dried fruits and berries	3,507	5,397				4,232
Chocolate, etc	5,155					
Other starch			1,466			
Bakers' wares					344	
Rice	88,875		702,706			
Tobacco:						
Leaves, unworked	92,496					
Cigars	675					
Sugar	21,341					
Tea	3,712					
Guano (except mineral)	60,418	100,713				
Hair, feathers, and bristles (hair)		2,507				
Hides and skins		121,568	44,405			
Linen, jute, and manilla yarn, thread, and rope		39,092				
Linen yarn		28,943				
Machines and instruments:						
Pianos, organs, etc	57					
Other musical instruments					659	
Locomotives and stationary engines	1,001	1,093				
Steam-boilers	1,954				505	
Other machines and parts thereof	29,801	39,465			55,541	
Metals and metal wares:						
Iron ore	4,950,889	998,353				
Copper ore	20,523	6,288				
Lead		86,733				
Tin	41,963					
Zinc		45,505				
Petroleum	153,257	309,168				
Mineral grease	47,613	52,564				
Oils and fats	321,149					
Bricks (building)	660,859					
Pottery		7,039				
Rags	36,729	77,340			25,638	
Rubber and gutta-percha wares			2,466			
Silk					17,589	13,896
Silk goods					1,474	
Slate		77,598			26,297	
Tar, pitch, and turpentine	97,864	38,063			49,309	
Wood and wooden wares (manufactures)	34,104					
Wool:						
Artificial		39,094				
Sheep		232,892				
Woolen goods (yarn)		28,948			9,276	

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Russia.	Brazil.	Argentine Republic.	Brazil and Argentine Republic.	Norway.	Greece.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Bran, rice waste, etc	1,420,228					
Drugs, chemicals, and colors		26,188	15,526			
Flax, hemp, and jute:						
Flax	554,590					
Hemp	391,796					
Fowl and eggs:						
Fowl	106,545					
Eggs	182,273					
Grain and agricultural products;						
Wheat	3,759,972					
Rye	7,511,6[illegible]					
Oats	1,752,749					
Buckwheat	185,080					
Barley	3,6[illegible]					
Indian corn	[illegible]					
Potatoes	406,[illegible]					
Groceries, wines, etc.:						
Wine and must in casks				80		
Butter and margarine	24,574					
Fresh slaughtered beef	90,0[illegible]			515		
Fish, salt, dried, etc					3,175	
Tropical fruits				76		
Currants						63,373
Pepper, black and white				254		
Coffee, raw		527,[illegible]				
Cacao beans, raw		[illegible]				
Dried fruit and berries	5,415					
Bakers' wares	314					
Tobacco:						
Leaves, unworked		103,311				
Leaves, entirely or half stripped		250				
Smoking		3,566				
Guano (except mineral)					44,581	
Hair, feathers, and bristles:						
Feathers	[illegible]					
Bristles	[illegible]					
Hair	[illegible]					
Hides and skins	[illegible]	141,[illegible]	101,235			
Copper wares	1,910					
Petroleum	[illegible]					
Mineral grease	[illegible]					
Paper and paper wares					51,477	
Rags	41,174					
Rubber and gutta percha wares		2,832				
Tar, pitch, and turpentine	77,716					
Wood and wooden ware—building timber, etc	16,835,803					
Wool (sheep)				285,133		

Table showing the imports into Germany from foreign countries in 1890—Continued.

Articles.	Turkey.	Ecuador.	Haiti.	Cuba and Porto Rico.	China.	Mexico.	Peru.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Drugs, chemicals, etc. (dye-wood)						187,906	
Groceries, wines, etc.:							
Raisins	59,582						
Cacao beans, raw		18,383					
Tea					9,204		
Tobacco:							
Leaves, unworked			44,861				
Cigars				2,111			
Guano (except mineral)							112,022
Hair, feathers, and bristles (feathers)					14,659		

Articles.	Spain.	Sweden.	German West Africa.	Portugal.	Australia.	Denmark.	Chile.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Drugs, chemicals, etc. (saltpeter)							3,192,193
Groceries, wines, etc.:							
Fish, salt, dried, etc						4,578	
Tropical fruits	111,776						
Raisins	23,887						
Dried almonds	4,149						
Rice						60,388	
Iron ore	6,177,798	975,366					
Paper and paper wares		52,238					
Bricks (building)						265,761	
Rubber and gutta-percha wares			6,083				
Wood and wooden wares:							
Raw cork	7,351			69,396			
Manufactures		43,439					
Wool (sheep)					245,317		

NOTE.—The percentages of the imports of grain from Russia are as follows: Wheat, 56 per cent.; rye, 58 per cent.; oats, 93 per cent.; buckwheat, 73 per cent.; barley, 50 per cent.; Indian corn, 12 per cent.; average, 50 per cent. Total imports of grain from Russia were 1,884,173,000 kilogrammes.

Table showing the exports from Germany to foreign countries in 1890.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Asphalt	164,288	75,156	45		18,108	
Bran, rice waste, etc	394,531	17				
Candles	9,896	170	2		1,948	
Cement	3,972,540	1,147,001	29			207,500
Clothing and underclothing	70,401	5,225	7½	1,464	17,050	1,359
Coal	105,042,664	3,420		11,465,673		35,989,901
Cotton:						
Raw	239,090	23				184,262
Yarn	71,468	726	1		30,260	
Wares	281,260	62,120	22	13,332	34,900	

Table showing the exports from Germany to foreign countries in 1890—**Continued.**

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Drugs, chemicals, and colors	4,200,865	444,293	10	....	....	....
Matches	....	....	30	....	....	....
Ultramarine	....	....	10	....	....	....
Oxalic acid	....	....	10	....	....	....
Alum	....	....	20	....	....	....
Precipitated sulphate of baryta	....	....	14	....	....	....
Bicarbonate of soda	....	....	14	....	....	....
Alizarin	....	....	15	....	....	....
Ammoniac	....	....	20	....	....	....
Aniline oils and salts	....	....	16	....	....	....
Aniline colors	....	....	17	....	....	....
Quinine	....	....	33⅓	....	....	....
Muriate of potash	....	....	31	....	....	....
Sulphate of potash	....	....	36	....	....	....
Minium	....	....	15	....	....	....
Mineral waters	....	....	10	....	....	....
Zinc white	....	....	1	....	....	....
Flax, hemp, and jute	529,109	828	....	....	....	....
Flax	262,553	....	....	98,653	....	102,647
Hemp	255,531	....	....	40,777	106,437	....
Jute	....	....	....	....	....	1,182
Fowl and eggs	11,226	24	....	....	....	....
Fowl	2,994	....	....	....	....	....
Eggs	8,232	....	....	1,935	2,356	....
Fancy wares, clocks, etc	74,093	24,873	33	3,070	22,223	....
Glass and glassware	841,401	155,338	18	....	150,296	....
Grain and agricultural products	1,615,074	8,916	0½	....	....	....
Potatoes	905,820	....	....	....	....	....
Fresh fruit and berries	290,417	....	....	....	204,709	....
Groceries, wines, etc	13,886,358	602,853	4	....	....	....
Beer	774,529	43,735	5⅔	193,176	....	....
Arrack, cognac, and rum in casks	881	2	....	....	....	....
Alcohol	297,978	492	....	....	....	....
Other brandies and whiskies	89,166	32,962	37	....	....	....
Wine and must in casks	125,357	45,352	36	11,897	....	....
Champagne	15,775	548	3	....	8,269	....
Wine in bottles	52,409	15,807	30	....	15,462	....
Butter and margarine	70,352	38	....	....	57,218	....
Fresh slaughtered beef	159,702	1,795	1	94,689	49,683	....
Fish, salt, dried, etc	5,237	81	1½	....	....	4,090
Tropical fruits	127	....	....	....	....	....
Currants	12	....	....	....	....	....
Raisins	35	....	....	....	....	....
Dried almonds	18	....	....	....	....	....
Pepper, black and white	43	....	....	....	....	....
Coffee, raw	235	....	....	....	....	....
Cacao beans, raw	22	....	....	....	....	....
Cheese	14,706	79	0½	6,837	....	....
Chicory	26,515	16,420	62	....	1,399	....
Dried fruit and berries	1,753	345	20	....	....	....
Chocolate, etc	1,072	349	33	....	....	....
Dextrine, etc	94,417	25,505	27	7,350	30,259	7,396
Potato flour and starch	513,419	5,841	1⅛	28,033	244,027	....

Table showing the exports from Germany to foreign countries in 1890—Continued.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
Groceries, wines, etc.—Continued.	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Other starch	8,564	9	......	922	......	......
Bakers' wares	15,325	127	0¾	500	586	459
Grits, etc	51,247	2,909	5½	......	......	......
Flour and meal	1,161,912	297	......	......	261,114	......
Rice	185	......	......	......	......	......
Salt	1,993,964	49,582	2½	......	......	214,063
Molasses	205,339	......	......	177,217	......	......
Starch, sugar, maltose, etc	107,106	3,150	3	......	89,102	......
Sirup from sugar manufactures	6,019	118	2	......	4,294	......
Tobacco:						
Leaves, unworked	13,409	......	......	......	......	......
Stems and ribs and chewing	6,512	......	......	......	......	......
Cigars	3,468	13	0½	......	321	......
Leaves, entirely or half stripped	11,567	2	10	......	6,227	......
Smoking	2,579	7	......	739	......	......
Tea	102	......	......	......	......	......
Crystallized starch, fruit sugar, etc	90,051	1,208	1⅓	......	77,188	......
Sugar	7,965,167	352,674	4½	......	4,693,734	......
Guano (except mineral)	28,509	......	......	......	......	7,561
Hair, feathers, and bristles	31,030	4,124	13	......	......	......
Feathers	7,876	......	......	......	1,551	2,713
Bristles	15,329	3,313	......	3,494	4,375	......
Hair	7,825	618	......	......	1,594	2,099
Hides and skins	366,742	22,648	6	64,219	39,141	51,716
Hops	119,440	16,054	13	19,658	37,977	5,749
Leather and leather goods	123,664	12,825	10	......	29,020	16,272
Fine leather wares	33,586	5,868	......	......	10,531	......
Gloves	......	1,927	56	......	523	455
Linen, jute, and manilla yarn, thread, and rope	99,524	322	0½	......	7,308	32,892
Rope	45,215	......	......	......	......	......
Jute and hemp yarn	31,825	......	......	......	......	......
Linen goods	43,808	17,143	39	......	2,403	......
Machines and instruments:						
Pianos, organs, etc	79,863	864	1	......	29,306	......
Other musical instruments	44,020	16,382	37	1,137	9,109	1,487
Locomotives and stationary engines	49,304	88	......	......	1,201	2,865
Sewing machines and parts thereof	77,362	560	0¾	5,450	7,487	......
Steam boilers	20,917	......	......	......	......	3,592
Other machines and parts thereof	730,808	10,062	1½	67,467	25,434	122,838
Metals and metal wares:						
Iron	31,293,444	570,154	1½	......	......	......
Ore	22,081,198	500	......	10,092,717	......	......
Wares	......	......	6	433,250	776,185	......
Copper	178,009	2,213	1¼	......	......	......
Ore	83,820	......	......	14,703	......	44,284
Wares	......	2,211	......	......	10,812	6,536

Table showing the exports from Germany to foreign countries in 1890—Continued.

Articles.	Total.	United States.		France.	Great Britain.	Austria.
		Quantity.	Per cent.			
Metals and metal wares—Continued.	100 *kilos.*	100 *kilos.*		100 *kilos.*	100 *kilos.*	100 *kilos.*
Lead	341,882	10,782	3	41,149	107,954	33,165
Tin	5,736	44	0¾		1,240	1,828
Zinc	737,234	9,843	1⅓	48,921	285,961	125,374
Petroleum	1,514	24	1½			
Mineral grease	3,677	7	0⅕			
Oils and fats	263,261	2,602	1		102,341	55,145
Paper and paper wares	1,011,565	93,025	9	157,103	286,075	
Pottery, porcelain, etc	1,901,162	77,415	4			
Bricks:						
Building	1,107,339			153,153		209,584
Fire		8,908		71,095		37,532
Pottery		14,393		27,837		26,864
Porcelain		53,404	40	3,642	36,291	5,040
Rags	454,989	211,485	46		135,412	26,861
Rubber and gutta-percha wares	8,607	2,856	33		1,803	
Silk	11,872	5				
Silk goods	57,405	24,057	42	3,341	16,197	1,198
Slate	20,335					17,248
Tar, pitch, and turpentine	184,444	1,180	0⅔			68,113
Wood and wooden wares	3,433,777	5,170	0⅙	604,826	529,768	
Manufactures	291,628	4,677	1½			
Wool	296,996	6,618	2¼			
Artificial	146,408	186		25,433	27,540	43,359
Sheep	90,199	1,528	1½	10,507		28,913
Woolen goods	277,887	40,516	14	11,093	41,540	
Yarn	60,389	4,904	8		7,154	19,666
Total	173,729,266	3,692,372	2			

Articles.	Holland	Belgium.	British India.	Central America.	Switzerland.	Italy.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Cement	772,616	202,115			131,989	
Clothing and underclothing	15,169	2,673			6,818	
Coal	31,754,218	8,109,657			6,894,013	
Cotton wares	16,873	9,152			10,450	
Drugs, chemicals, and colors (matches)				850		
Flax		43,970				
Fowl and eggs:						
Fowl		1,137				
Eggs	1,842					
Glass and glassware		44,748				
Grain and agricultural products (potatoes)	288,370	120,312			281,369	
Groceries, wines, etc.:						
Beer		73,234			72,986	
Wine and must in casks					32,704	
Cheese					4,770	
Chicory					4,555	
Dried fruit and berries					304	
Potato flour and starch						49,553
Other starch					1,523	1,517
Bakers' wares					505	

Table showing the exports from Germany to foreign countries in 189[illegible]—Continued.

Articles.	Holland.	Belgium.	British India.	Central America.	Switzerland.	Italy.
Groceries, wines, etc.—Continued.	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Grits					7,004	
Flour and meal	231,633					
Salt	258,854	236,394	606,654			
Molasses		16,393				
Starch, sugar, maltose, etc					3,278	
Tobacco:						
Leaves, unworked					4,635	4,285
Stems and ribs and chewing	6,512					
Leaves entirely or half stripped	5,226					
Smoking		1,418				
Sugar	458,288	29,036	29,414		71,655	
Guano (except mineral)	7,868					
Hair					1,044	
Hops	3,838	9,332			3,230	
Linen, jute, and manilla yarn, thread, and rope	5,421					
Machines and instruments:						
Pianos, organs, etc	5,001					2,042
Locomotives and stationary engines		1,076			4,686	9,478
Sewing machines and parts thereof	3,744	4,829			3,537	3,466
Steam-boilers	1,641					1,235
Other machines and parts thereof	38,223	34,784			35,962	50,257
Metals and metal wares:						
Iron—						
Ore		10,961,823				
Wares	903,401	1,018,907				505,527
Copper—						
Ore	3,148	6,129				
Wares	6,544				7,587	7,093
Lead	26,547	49,946				
Zinc	79,945					29,381
Paper and paper wares	96,513					
Pottery, porcelain, etc.:						
Bricks—						
Building					101,836	
Fire	21,380	41,537			33,969	
Pottery	43,392					
Porcelain	5,026					
Silk goods	7,266					
Wood and wooden wares	761,025	480,449				
Wool:						
Artificial		23,384				
Sheep		9,527				
Woolen goods	17,523		9,556		19,339	11,104

Table showing the exports from Germany to foreign countries in 1890—Continued.

Articles.	Russia.	Brazil	Argentine Republic.	Brazil and Argentine Republic.	Norway.	Spain.
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Asphalt	[illegible]					
Cement	103,970					
Clothing and underclothing		[illegible]	757			
Coal	2,495,377					
Cotton wares		24,516	8,936			
Drugs, chemicals and colors		[illegible]	69,034			
Fancy wares, clocks, etc		870	530			
Glass and glassware		11,257	13,983			
Groceries, wines, etc:						
Beer		35,969	11,953			
Alcohol						199,149
Other brandies and whiskies	[illegible]	[illegible]	371			2,311
Wine and must in casks				1,086		
Champagne and wine in bottles				744		
Chicory				314		
Potato flour and starch						79,807
Grits, etc					6,939	
Flour and meal					240,631	
Starch, sugar, maltose, etc		3,074				
Sugar	[illegible]			2,570	43,484	
Hops	[illegible]			1,577		
Jute	[illegible]					
Linen, jute, and manilla yarn, thread, and rope				5,873		
Machines and instruments:						
Pianos, organs, etc	[illegible]			2,641		
Other musical instruments	1,697			2,654		
Locomotives and stationary engines	2,168			909		3,171
Sewing machines and parts thereof	[illegible]			6,938		
Steam-boilers	2,261			536		1,985
Other machines and parts thereof	114,419			17,130		22,349
Metals and metal wares:						
Iron wares	[illegible]			[illegible]		
Copper—						
Ore	[illegible]					
Wares	[illegible]			2,714	4,517	
Lead	[illegible]					
Zinc	[illegible]					
Paper and paper wares				[illegible]		
Pottery, porcelain, etc:						
Bricks (fire)	[illegible]			[illegible]		15,243
Pottery	[illegible]			[illegible]		
Porcelain				[illegible]		
Rubber and gutta-percha wares	[illegible]					
Silk	[illegible]					
Tar, pitch, and turpentine	[illegible]					
Wool (sheep)	[illegible]					
Woolen goods				12,776		
Yarn	[illegible]					

Table showing the exports from Germany to foreign countries in 1890—Continued.

Articles.	Sweden.	German West Africa.	Australia.	Denmark.	Cape Colony and Orange Free State.	Roumania
	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*	100 *kilos.*
Asphalt	20,395					
Bran, rice waste, etc	82,573			251,621		
Bricks:						
Building				117,942		
Fire				15,194		
Candles	620				1,193	
Cement				175,589		256,609
Clothing and underclothing				293		
Copper wares	4,925					
Cotton wares						8,293
Feathers	1,269					
Groceries, wines, etc.:						
Arrack, cognac, and rum in casks		698				
Other brandies and whiskies		11,360				
Chicory				1,088		
Potato flour and starch				32,640		
Grits, etc.				16,068		
Flour and meal	141,121					
Cigars			681			
Sugar	225,312			31,987		47,127
Hops	5,255			4,306		
Jute	1,786					
Linen goods				3,803		
Machines and instruments:						
Locomotives and stationary engines				973		11,121
Sewing machines and parts thereof	5,748		3,832			
Steam-boilers	969					
Other machines and parts thereof	51,346					
Woolen goods	14,561			12,163		
Yarn	3,273					

NOTE.—The exports of sulphur to Chile were 157,600 kilogrammes and to Mexico 565 kilogrammes.

EXPORTS TO, AND IMPORTS FROM, THE UNITED STATES.

The foregoing table shows clearly that Germany's chief importations from the United States are raw materials, while its chief exportations to the United States are manufactured wares.

The declared value of all wares shipped from Germany to the United States during the calendar year 1890 and covered by invoices legalized at the various consulates of the United States in Germany was:

Consulates-general.	Amount.	Increase.
Berlin	$58,808,080.45	$6,892,094.06
Frankfort	43,133,636.59	5,971,247.05
Total	101,941,717.04	12,863,341.11

The increase in 1890 over 1889 was 14.4 per cent.

Table showing the chief importations from the United States in 1890.

Articles.	Amount.	Percentage of total.
	100 kilos.	*Per cent.*
Raw cotton	1,251,447	50
Grain	4,456,402	11
Indian corn	3,665,979	65
Beef	55,838	23
Tobacco:		
Leaves	102,651	23
Stems	30,425	97
Sewing machines	8,959	30
Lard	755,739	83
Petroleum	5,489,887	85
Mineral grease	144,778	28
Turpentine	506,377	70

Table showing the chief exportations to the United States in 1890.

Articles.	Amount.	Percentage of total.
Manufactures:	*100 kilos.*	*Per cent.*
Cotton	62,120	22
Hosiery	50,013	[illegible]
Linen	17,143	39
Silk	24,057	42
Wool	40,516	14
Porcelain	53,404	40
Glass	155,338	18
Rubber	2,856	33
Rags	211,485	46
Musical instruments	16,382	37
Chemicals and colors	444,293	10
Fancy wares	24,873	33
Liquors	32,962	37
Wine:		
In casks	45,352	36
In bottles	15,807	30
Dextrine	26,095	27
Leather gloves	1,927	57

As German duties are collected upon the weight of the imported articles, it is not possible to obtain any statistics from German official sources in regard to the value of the wares imported into Germany from the United States.

GEO. H. MURPHY,
Consular Clerk.

UNITED STATES CONSULATE-GENERAL,
Berlin, June, 1891.

American trade in Florence.—The two last lines in paragraph 4 of Consul Diller's report on "American Trade in Florence" (page 136 of CONSULAR REPORTS for May, 1891, No. 128) should read as follows: "and marble—sailing vessels returning to Italy could readily ballast with both kinds of coal, which would always find a ready sale in this market—and make a fair profit."

THE BELGIAN MINERS' STRIKE.

REPORT BY CONSUL DANFORTH, OF LIEGE.

The May, 1891, strike of miners has come and gone. It was like a prairie fire—swift, sweeping, and superficial. The area of the strike covered the coal deposits of south and southeastern Belgium and of north and northwestern France. In the coal basin of Charleroi there were 26,000 miners on strike; in the basin of Liege, 20,000 miners; and in France, perhaps 50,000 miners; making a total of between 90,000 and 100,000 men on strike during the same period of time.

The immediate occasion of the strike was without local cause or origin. Paris must be sought for it. At the general convention of miners held at that city in April the question of a general strike among all miners of Europe for a day of 8 hours of labor was introduced and debated. The Latin race was for immediate action; the German and English (including Scotch and Welsh) declared for delay and ampler preparation.

Though the general strike in convention was outdebated and outvoted, yet the cause of the Belgian miners was represented by their delegates as being so pressing as to require immediate action. A reluctant consent was obtained, and some indefinite promise of pecuniary support was assured.

But the public in Belgium and many of the mine-owners did not anticipate a strike. May-day agitation, with many threats and much vaporing, had resulted in nothing more serious than meetings and parades heretofore. It was supposed that such would be the outcome the present year. The strike was scarcely less of a surprise to many of the miners than to the public at large. There was no special grievance to be righted, no peculiar wrong to excite indignation and revolt existing this year that had not existed other years. Indeed, to both mines and miners the year has been one of activity and prosperity. The stock of the mines rules high in the market, and work has been abundant and wages as usual to miners. An indication of how little the heart of the miners was in the strike may be gained from the method employed by which to inaugurate the strike. We are informed that—

> At Charleroi the men were gathered together by their leaders. All who were opposed to the strike were asked to hold up their hands and their names would be recorded. Naturally, this species of hand-showing was not indulged in, whereupon the vote was immediately pronounced as unanimously in favor of the strike.

The slight resistance and short duration of the strike is another indication of its unpopularity among the miners. While its effects still linger, the strike itself was in force but a week or 10 days. As soon as the authorities provided means for the protection of miners wishing to work they returned by scores and hundreds to the mines. There never existed a determined purpose to win or suffer. No special enmity was shown; no destructive spirit to a marked extent was exhibited. Before the police and military obtained the upper hand tickets or passports were issued by the strike leaders to a limited number of men, whose duty it was to keep the pumps moving and to take care of the horses in the mines. The strikers were not blindly attempting the destruction or serious injury of the mines. They wished, if easily possible, to compel shorter hours of labor at the existing rate of wages.

Without doubt the leaders and agitators, some of whom came from Germany to foment the movement, wished to extend the strike to other industries, such as iron and glass. Their success was small. It became known that a violent delegation of workmen were about descending upon some iron works to drive the mechanics off, when a peculiar and effective means of repelling the attack was adopted. Iron rods and tongs and pinchers were heated to a white heat. These were arguments, the close, personal application of which the malcontents did not care to try, but suddenly decamped, not to return. During the whole strike about one hundred and forty arrests were made in this consular district of those who attempted to interfere with workers.

Mine-owners claim that they receive but 7½ hours of actual productive labor from the miners. Miners claim that through delays, obstructions, etc., 10 hours of their time are absorbed by the companies.

Reports of violence sent to the United States have been greatly exaggerated. I have moved in the midst of the scenes, have read and been conversant with both sides, and can say that we should regard the whole matter as a tame affair in our somewhat intense country. The dynamite explosion in Liege was the revenge of a discharged workman taking advantage of the strike disturbances to conceal his diabolical deed. Happily a smashed door and broken glass cover the damage done.

The significance of the strike—so great in numbers, so small in tangible results—is not to be sought upon its economic side. It was not intended to be, nor was it, entered upon by the miners (a few leaders excepted) as a war upon capital. They did not mean business; they did not determine upon a fight. As such it was a huge bubble, easily blown about and quickly pricked.

The strike was a significant and important social and political demonstration. Into this men and women entered earnestly and heartily by swelling enthusiastic thousands. It would be a great mistake for the student of politico-sociology to overlook or to underestimate the meaning of those demonstrating tens of thousands who by banners and shouts and songs demand "universal suffrage," "8 hours of work, 8 hours of recreation, and 8 hours of rest." The "fourth estate" is in deep unrest. It has become sensitive and feels its cramping limitations. Intelligence is increasing and with it the desire and demand for easier conditions of life. The force of numbers in combination and under direction for the accomplishment of results it is fast learning. It is also learning the heretofore unlearned force of self-repression and of movement within orderly bounds. The violent were the few scores; the orderly were the many thousands. A "straw" to show in which way the wind blows is mentioned; it is a small thing in itself. As a "well-dressed" man in moving about meets the miners of 50 or 60 years of age universally he receives a pleasant greeting, and caps are touched; but when he meets the younger men they take no notice of him.

Many among the "fourth estate" bear a sullen heart, and all are resolved upon such betterment as they can achieve. The May demonstration of this year indicates the deepening interest that is reaching the increasing numbers.

It is estimated that 100,000 men of all trades were on strike throughout Belgium. At this date (May 21) the committee of the general council of the National Federation of Workingmen declare the strike closed, as the promise is given by the legislative chambers of a favorable consideration of the demand for universal suffrage. This demonstrates the essential political character of the manifestation.

JAMES R. DANFORTH,
Consul.

UNITED STATES CONSULATE,
Liege, May 21, 1891.

SPONGE TRADE OF THE BAHAMAS.

REPORT BY CONSUL McLAIN, OF NASSAU.

In response to the direction of the Department made on May 4, 1891, at the request of certain American shippers and traders for further information on the sponge industry of the Bahamas, which has been the subject of previous reports, I beg to submit the following, which will cover all the questions submitted:

The vessels used in the sponge trade in these islands are small craft, varying in size from 5 to 25 tons burden, and are either schooner or sloop rigged. They are all built in local shipyards, and their construction and repairs constitute an important business in itself.. The frames are generally made of Madeira wood, a hard, tough wood of native growth, the planking and other material being of yellow pine imported from our Southern States. They have a small cabin for sleeping purposes. Cooking is done on deck, the fire being built on the earth bottom of a wooden box, and each vessel carries two or three small open row or scull boats, with a crew of from 8 to 12 men. These vessels have an average life of from 16 to 20 years, undergoing, of course, occasional repairs. It is thought that there are from 450 to 500 of these vessels engaged in the business of gathering sponges in these waters.

The number of persons engaged in the business of gathering sponges in the Bahamas, handling them and preparing them in various stages for market is from 5,000 to 6,000, all of whom, except the shipowners, brokers, and shippers, are black or colored people. Hands employed in clipping, washing, packing, and preparing finally for shipment abroad get from 50 to 75 cents per day of 10 hours. The amount earned by the men who go fishing for sponges can not be given, as their pay depends entirely on the number of sponges obtained. The owner of the vessel fits her out at his own expense, and the profits of the voyage are divided up in shares among the owner, the master, and the men. They are never hired by the month, nor do they ever get specified wages. The most that can be said is that the men make a tolerable living, and I should say that the sponge fisherman who earns over $300 a year is the exception. The owners of the vessels, as a rule, have their own shops, from which the vessels are fitted out, and on supplies thus furnished the owner makes a profit in addition to others. The shipowners, generally speaking, find considerable profit in the business, whilst the fishermen, if not able to lay up any money from the pursuit, are yet enabled to rely upon it for a moderate living. The method of gathering sponges here is by means of iron hooks attached to long poles. By using a water glass the fisherman can readily discover the sponges at the bottom, and then with his pole and hook he will bring up those he may select as fit for his purpose, leaving the smaller ones untouched. Some sponges adhere firmly to the bed of the sea, whilst others are not attached at all, these latter being known as "rollers." About 10 years ago an attempt was made to introduce dredges; but it was found that their use was likely to ruin the beds, because in passing over the bottom they dislodged and brought up not only the good sponges, but the young and unsalable ones as well, killing the spawn and working great mischief. The ordinary fishermen also made an outcry, declaring that the use of dredges interfered with their rights. An act was passed by the legislature forbidding the use of dredges, and only the pole and hook are now ever used. When the sponge field is reached the vessel anchors, and the men, putting off in the small open boats, do the fishing in the manner above indicated, returning to the vessel before nightfall with their catch.

The sponges, when brought to the vessel, are at once spread upon the deck and are left exposed to the sun for several days, during which time the animal matter that covers the sponge gradually dies. This is a black, gelatinous substance of a very low order of marine life, which during the process of decay emits a most objectionable odor. The vessels visit what is called the "kraal" once a week to land the load from the deck. The kraal is an inclosed pen, fenced in by sticks of wood so as to allow a free circulation of water through it, usually built in a sheltered and shallow bay or cove, on one of the cays near by. The sponges are placed in the kraal and left to be soaked and washed by the action of the water from 4 to 6 days, when they are taken out and beaten with sticks until the decayed covering is entirely removed. Having been subjected to this course of exposure, soaking, beating, and washing, the sponges are quite clean and are taken on board the vessel, packed away in the hold, conveyed to Nassau, and in this condition are sold in the local market.

The average catch per trip can not be stated, as the cargoes vary greatly in size and value. Of the larger sponges a catch of 5,000, or of the smaller ones 7,500, would be considered a fair lot. Occasionally a cargo of from 12,000 to 15,000 large sponges has been brought in, but this success is exceptional. The vessels are provisioned and fitted out, as a rule, for a voyage of about 6 weeks, and generally from seven to eight voyages are made per annum.

There can not be said to be any season for sponge-gathering, as it goes on all through the year. A number of vessels are often laid up, however, during August and September, the men being timid and afraid of hurricanes during that period. Of course, the quieter the weather and smoother the sea the better the chances are for making a good catch, as nearly all the work is done in small, open boats from 10 to 12 feet in length. Much also depends upon the energy and the industry of the crew, and there is luck in finding a locality where the sponges are valuable and abundant. As to the length of time required for sponges to grow to good marketable size, little definite can be said; none of the fishermen are able to tell, though many volunteer opinions that differ widely. It is a matter to be determined by future scientific investigation, but I believe it will be found that a healthy sponge will reach a marketable size in from 12 to 18 months under ordinary conditions of growth. No attempts have been made, worthy of mention, to cultivate the sponge in these waters.

The principal varieties of sponges gathered in the Bahamas—with sundry grades in each variety—are as follows, viz, boat, grass, glove, hardhead, reef (white and dark), velvet (abaco and cay), sheeps' wool, and yellow, of which the most valuable is sheeps' wool. The quantity of each kind exported in 1890 was as follows: Boat, 8,779 pounds; grass, 320,520 pounds; glove, 4,595 pounds; hardhead, 16,027 pounds; reef, 81,128 pounds; velvet, 236,596 pounds; wool, 131,038 pounds; yellow, 69,197 pounds; and of refuse and clippings, say, 50,000 pounds. The total export reached over 900,000 pounds, which was valued in invoices at $306,896.

The average prices for which sponges sell in the local market are roughly estimated as follows: Sheeps' wool (best), say $1.15 per pound; velvet, 75 cents; reef, 65 cents; glove, 25 cents; hardhead, 40 cents; grass, 35 cents; yellow, 30 cents. These are prices paid when landed from vessels, before any expenses are incurred for preparing for export.

The crop of 1890, it is only fair to say, was above the average, being really the most valuable one in many years. The quantity shipped to the United States in 1890 was 708,000 pounds, worth $236,000; to Great Britain, 107,000 pounds, worth $40,000; to France, 50,000 pounds, worth $16,000; to Holland and Germany, 50,000 pounds, worth $15,000.

Bahama sponges are not considered very good, but a ready market is found for all that can be obtained and at constantly improving prices. There are no indications of any failure of the supply.

The sponges are prepared for export in the following manner: After being bought in the local market they are carted to the shipping yard of the purchaser, where they are cut and trimmed into proper shapes and sizes; they are then washed and thoroughly dried, being generally spread in the sun for that purpose upon canvas or old sails; next they are assorted according to varieties and grades, and then packed by means of hand presses into bales weighing from 20 to 150 pounds. Sometimes the sponges are bleached by being passed through a solution of white lime and water, so weak as not to injure the fiber of the sponge. I do not know of any process resorted to for coloring the sponges, and few, indeed, are even bleached at present.

When offered for sale in the local market, the sponges are either piled up loose or made into strands or beads of from two to ten sponges each. Abaco wool and velvet, the best sponges we have, are usually made into strings of from eight to ten sponges each, the price averaging about 60 cents per string. Other wool and velvet are generally sold in lots not strung. The buyer, however, is not guided in his purchase by the number of sponges on a string, but by what a certain lot will weigh, and the weight is never given, but the buyer must estimate it. Hence practical experience is needed in the purchasing of the sponges.

Sponges are offered for sale on 5 days of the week at the sponge exchange. They are landed from the vessels, and each cargo is piled up by itself. The weight is entirely unknown. The buyers examine the lots and each man hands in a private tender, in writing, for the lot, and it is awarded, on opening the tenders, to the highest bidder. A successful buyer must be able to judge correctly by his eye and experience just how many pounds of good sponges he will be able to get out of a given lot when it has been carefully worked up.

Nearly all the sponges sold here are bought by resident agents, who buy for New York, London, and Paris houses, shipping the goods to their principals. A few merchants handle sponges on their own account.

The principal buyers of sponges in this market are Messrs. George B. Adderley, J. B. Brown, Edward Y. Webb, Johnson & Bro., R. H. Sawyer & Co., George W. Higgs, Young & Higgs, Saunders & Co., William R. Pyfrom, Henry W. Lightbourn, and E. S. Hall.

The question whether it would be a violation of the laws of the United States to import sponge fishermen into Florida to introduce the business on the west coast of that State is superfluous, because there is no necessity for making any arrangement of the kind with the sponge-gatherers of the Bahamas. The person submitting the question can not be well informed upon the industries of his own State, for the sponge business is in a flourishing condition, and has been for years, along the southern coast of Florida, with its headquarters at Key West, and hundreds of the people of that vicinity are engaged all the time in gathering, curing, and shipping sponges. Many natives of this colony visit Florida from time to time and find employment in the sponge business. All the crews necessary to introduce the business in the vicinity of Tampa and men well versed in the details of the industry can be obtained easily at Key West without the least necessity of importing contract labor into the State from the Bahamas. I am informed that the sponges growing along the Florida coast are much superior to the sponges of the Bahamas. I believe the foregoing covers all the information asked for.

THOS. J. McLAIN,
Consul.

UNITED STATES CONSULATE,
Nassau, N. P., May 30, 1891.

DANISH BUTTER TRADE.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

Whilst the year 1890 brought so very marked an improvement in almost every branch of agriculture as compared with many of the previous years, it would, unfortunately, appear not to have reached the Kingdom's staple product of butter, at least so far as prices are concerned. While in 1889 the average price of best export butter was $25.72 per cwt., in the past year it was only $24.70 per cwt. It is true that these average prices do not always give a fully reliable standard of the yield of the butter production, for the reason that the one year can have relatively high prices during the summer months and relatively low prices during the winter months, and in that way attain the same average price as a year in which the very reverse had been the case. But, in spite of such averages, the year 1889 brought the largest income to the Danish dairies.

In 1890 exceptionally low butter prices ruled during the whole time, when the production of butter was at the highest point, viz, in the summer months, and the country's income from butter will probably be even less than even the low average figures justify. Against this unfavorable result the early and good grazing throughout the year will have been some set off.

The average price for the past year was the same as for 1888, but otherwise it will be necessary to go back some 20 years to meet with an equally low average. The cause of this sad result can scarcely be attributed either to any decline in Danish butter in the English markets or to any decline in the purchasing of the English customers, or even to any falling off in the quality of the butter. The cause may, perhaps, be more justly laid to the objectionable course pursued of late in this export trade, namely, in the increase of the consignment business and the decline in the free-on-board sales. The price movements for finest export butter in the course of the past year have been great, the minimum price having been $18.90 per cwt. in the month of July and the maximum price $29.70 per cwt. in the month of November.

The mean prices of best export butter per cwt. for each month in the past year were as follows:

Month.	Price.	Month.	Price.
January	$26.10	July	$20.00
February	26.20	August	22.30
March	26.00	September	25.25
April	24.70	October	26.80
May	22.30	November	28.70
June	20.15	December	27.90

During the summer months the average price was only $20.80 per cwt., that is to say, a lower average than has been known for a long series of years.

In the movements from week to week and from month to month it will be sufficient to draw attention to the sudden fall in prices of $4.55 per cwt. which took place in July and the sudden rise which occurred in November of $5.10 per cwt. Of the second and medium grades of butter by far the largest part is used for home consumption, and during the 8 months in which this description of butter was officially noted, the lowest price was $13.40 per cwt. and the highest $17.10 per cwt.

In the last 10 years the average prices for finest export butter per cwt. have been as follows:

Year.	Price.	Year.	Price.
1881	$32.40	1886	$25.63
1882	32.00	1887	25.52
1883	30.24	1888	24.70
1884	29.42	1889	25.72
1885	27.13	1890	24.70

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, March 24, 1891.

FOREIGN COMMERCE OF RUSSIA IN 1890.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

The customs administration has just published a statement showing the movement of commerce of Russia in 1890 on the European frontier and on the Caucasian coast of the Black Sea, from which I have made a brief summary for the use of the Department.

Compared with the previous year, the customs receipts in 1890 show, on a total of $71,441,500, a surplus of about $2,400,000. The receipts have increased about $204,000 in colonial products and $2,368,000 on tea, hides, wax, cast-iron in bars, iron, and other articles.

The total receipts for the last 8 years were as follows:

Year.	Amount.	Year.	Amount.
1890	$71,441,500	1886	$54,198,000
1889	69,047,500	1885	49,249,000
1888	64,122,000	1884	49,772,500
1887	54,725,000	1883	50,965,500

The exports in 1890 amounted to $343,510,000, including goods exported from the Caucasus by the Black Sea, and, compared with those of last year, they show a decrease of $37,500,000, or 8½ per cent.

It must be remarked that the exports in 1889 were less than those of 1888 by $20,500,000. Thus in the space of 2 years the Russian export trade has decreased by $53,000,000. The decrease is principally on cereals, of which

7,502,382 tons were exported, valued at $169,256,000, as against 8,378,640 tons, valued at $187,700,000, in 1889.

The following table shows the amount of different cereals exported in 1890, as compared with the exports in 1889:

Cereals.	1889.	1890.
	Tons.	*Tons.*
Wheat	3,429,720	3,275,082
Rye	1,515,600	1,384,200
Barley	1,183,500	1,091,880
Oats	1,262,340	933,840
Maize	484,020	370,980
Peas	79,740	68,040
Meal	26,460	30,240
Flour	126,180	100,440
Other	271,080	247,680
Total	8,378,640	7,502,382

Table showing the principal exports from Russia in 1889 and 1890.

Articles.		Quantity.		Value.	
		1890.	1889.	1890.	1889.
Eggs	number	755,000,000	609,000,000	$6,180,000	$4,985,000
Caviar	tons	3,600	4,374	1,265,000	1,445,000
Fish	do	9,486	9,666	1,995,000	1,700,000
Refined sugar	do	30,186	63,684	3,450,000	6,900,000
Tobacco	do	3,600	5,094	800,000	700,000
Alcohol	degrees	426,000,000	402,000,000	2,870,000	2,880,000
Forest products	tons	966,600	1,002,600	26,850,000	27,850,000
Linseed	do	436,680	431,820	15,200,000	16,300,000
Hemp seed	do	16,380	31,500	470,000	990,000
Oleaginous grains	do	128,340	78,660	4,925,000	2,115,000
Other grains	do	6,840	4,680	755,000	515,000
Grain residue	do	118,800	154,800	2,950,000	3,150,000
Flax	do	218,340	201,960	28,610,000	28,990,000
Tow	do	21,060	22,500	1,890,000	2,205,000
Hemp	do	59,400	78,260	8,155,000	10,365,000
Tow	do	9,000	6,940	720,000	495,000
Hides	do	6,642	6,146	2,450,000	2,925,000
Leather	do	9,000	6,822	3,090,000	2,825,000
Bones	do	41,940	38,970	2,020,000	910,000
Horsehair	do	1,755	2,300	460,000	710,000
Bristles	do	2,808	3,042	4,547,000	5,509,000
Birds' feathers	do	2,070	2,016	800,000	786,000
Tallow	do	4,212	4,176	800,000	900,000
Wool:					
Common	do	22,860	25,380	5,650,000	6,200,000
Merino	do	6,480	11,790	1,575,000	4,785,000
Camels' hair	do	1,314	6,030	289,500	1,310,500
Platinum	pounds	7,200	10,800	558,000	680,000
Poultry and game	number	5,766,000	6,635,000	2,260,000	2,495,000
Cattle	do	13,000	15,000	515,000	610,000
Pigs	do	6,000	34,000	120,000	688,000
Sheep	do	108,000	136,000	319,000	403,500
Horses	do	43,400	37,300	2,088,500	2,202,000
Rope				43,500	500,000

The export of manganese ore amounted to 58,266 tons, valued at $686,500, as against 148,230 tons, valued at $1,663,500, in 1889.

It is noticed that the export of manufactured articles has fallen from $14,000,000 to $11,000,000.

The imports of Russia, which amounted to $165,280,000 in 1888 and to $185,781,000 in 1889, fell last year to $178,505,500. Foremost among the imports into Russia are tea and cotton, as shown by the following table:

Year.	Tea.	Cotton.
1888	$16,136,000	$34,124,000
1889	15,577,500	41,754,500
1890	15,393,000	39,560,500

Table showing the other principal articles of import into Russia in 1889 and 1890.

Articles.	Value.	
	1890.	1889.
Drinks (wine, beer, etc.)	$4,400,000	$4,750,000
Salted herrings	3,800,000	4,000,000
Coffee	3,000,000	2,600,000
Fruit and berries	190,000	100,000
Tobacco	1,320,000	1,503,500
Pepper	500,000	495,000
Nuts and walnuts	400,000	435,000
Wool	10,340,000	10,470,000
Colors and coloring matter	7,265,000	7,830,000
Coal and coke	6,200,000	7,060,000
Silk	4,325,000	5,235,000
Cotton nets	4,300,000	4,915,000
Olive oil	2,600,000	3,050,000
Iron	3,100,000	2,900,000
Various plants	185,000	170,000
Hides and leather	5,520,000	5,325,000
Forest products	1,625,000	1,610,000
Sheet-iron	1,930,000	1,950,000
Cast-iron in bars, etc	2,420,000	1,970,000
Gum, caoutchouc, etc	1,990,000	1,800,000
Chemical products	6,035,000	6,275,000
Lead	255,000	290,000
Steel	1,150,000	1,140,000
Caustic sodium	1,075,000	910,000
Hops	530,000	625,000
Various machinery	10,275,000	11,220,000
Steel and iron articles	5,380,000	5,825,000
Cotton stuffs	955,000	1,065,000
Clock work	1,825,000	1,730,000
Woolen stuffs	1,160,000	1,635,000
Paper articles	655,000	660,000
Glassware	795,000	870,000
Linen goods	650,000	840,000
Silks	830,000	930,000
Printed matter	1,030,000	1,080,000
Articles of joinery	530,000	505,000
Musical instruments	505,000	495,000
Linen and ready-made clothes	285,000	310,000

The movement of navigation in the ports of Russia in Europe can be résuméd as follows:

Table showing the movement of through-transit vessels.

Year.	Entered.		Cleared.	
	Number.	Tons.	Number.	Tons.
1890	9,594	3,033,074	9,450	3,005,018
1889	10,628	3,250,309	10,570	2,271,768
1888	12,047	3,615,311	11,906	3,593,150
1887	10,776	3,050,058	10,624	2,998,746
1886	8,965	2,412,422	8,885	2,406,311

Vessels under the national flag figure in the above table (1890) for 251,676 tons entered and 227,401 tons cleared.

Navigation from the different ports in 1890 is classed as follows:

ENTERED.

Ports.	Vessels under foreign flag.		Vessels under Russian flag.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons
White Sea	296	72,244	300	10,779	596	83,023
Baltic Sea	4,998	1,291,342	642	106,174	5,640	1,397,516
Azof and Black Sea	3,039	1,417,812	319	134,723	3,358	1,552,535
Total	8,333	2,781,398	1,261	251,676	9,594	3,033,074
Total in 1889	9,266	2,997,299	1,362	253,010	10,628	3,250,309
Total in 1888	10,606	3,355,765	1,441	256,546	12,047	3,615,311
Total in 1887	9,392	2,796,509	1,384	253,549	10,776	3,050,058
Total in 1886	7,652	2,169,269	1,313	243,153	8,965	2,412,422

CLEARED.

Ports.	Vessels under foreign flag.		Vessels under Russian flag.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons
White Sea	296	72,021	286	10,370	582	82,391
Baltic Sea	4,998	1,295,269	576	90,699	5,574	1,385,968
Azof and Black Sea	3,020	1,410,327	274	126,332	3,294	1,536,659
Total	8,314	2,777,617	1,136	227,401	9,450	3,005,018
Total in 1889	9,350	3,038,198	1,220	233,570	10,570	3,271,768
Total in 1888	10,606	3,358,404	1,300	234,746	11,906	3,593,150
Total in 1887	9,302	2,756,704	1,322	242,042	10,624	2,998,746
Total in 1886	7,646	2,171,526	1,239	234,785	8,885	2,406,311

The above data are from the official figures furnished by the custom-house authorities, and I have reason to look upon them as reliable.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, May 15, 1891.

CANADIAN CANAL TOLLS.

REPORT BY CONSUL-GENERAL LAY, OF OTTAWA.

DISCRIMINATION AGAINST TRANSSHIPMENTS AT AMERICAN PORTS.

In compliance with the Department's instructions of April 8, 1891, and May 14, 1891, in reference to the complaints of Ogdensburg and Oswego shippers that the order in council of March 25, 1891, discriminates against transshipments at American ports, excluding them from participating in the refund of tolls allowed on grains passing through the Welland and St. Lawrence canals to Montreal and points east of that city, I have to report as follows:

I addressed a letter of inquiry to the chief of the canal department (copy of letter marked inclosure 1), and received reply (copy of letter marked inclosure 2) referring me to the order in council of March 25, 1891 (copies inclosed). I was advised by one of the officials of the department to wait a while before making my report, as the subject of tolls was then still before the council, and the annual report was expected to be out very soon. I send by mail, under separate cover, two copies of the report, which is just out.

I also inclose copy of my letter of May 19, 1891 (marked inclosure 3), to Sir John Macdonald, minister of railways and canals, asking an interpretation of the order in council of March 25, 1891, and whether it excluded American ports from the benefit of the refund on transshipment at such ports. Having received no reply to this letter as yet, I have determined not to delay my report any longer.

It will be seen that the canal tolls are fixed at 20 cents per ton, allowing a rebate of 18 cents per ton on transshipments at Canadian ports only. There can be no doubt as to the effect of this order, whatever the intention may have been.

The large size of the boats from the upper lakes and the small locks of the canal and shallow water below Ogdensburg necessitate the transshipment of nearly all grain destined for the seaboard by way of the lakes and River St. Lawrence.

The superior facilities for landing grain at Oswego and Ogdensburg, the rapidity of its transportation by canal and rail to Montreal and New York, with nominal freight rates at the latter port, were, no doubt, the causes which led to the discrimination in favor of the Canadian route.

I am informed by the consul at Kingston, Ontario, that the transshipment of grain there is the largest business done, and that last year about one-seventh of the business was directed to Ogdensburg, American railroads, in a measure, taking the place of the Canadian canals.

There is no doubt now that grain transshipped at an American port will cost 18 cents per ton canal tolls more than if transshipped at a Canadian port.

I have extracted from the report of railways and canals for 1891 some statistics pertaining to the subject, and attach them hereto.

RICHARD G. LAY,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Ottawa, May 28, 1891.

CONSUL-GENERAL LAY TO HON. M. BOWELL, MINISTER OF CUSTOMS.

[Inclosure 1 in Consul-General Lay's report.]

CONSULATE-GENERAL OF THE UNITED STATES,
Ottawa, April 14, 1891.

DEAR SIR: I have the honor to request to be informed if the rebate on grain freight passing through the Welland and St. Lawrence canals, authorized by order in council passed March 25, 1891, will be allowed on transshipments at United States ports as at Canadian ports.

I am, etc.,

RICHARD G. LAY,
Consul-General.

THE SECRETARY OF RAILWAYS AND CANALS TO CONSUL-GENERAL LAY.

[Inclosure 2 in Consul-General Lay's report.]

DEPARTMENT OF RAILWAYS AND CANALS,
Ottawa, April 21, 1891.

SIR: In acknowledging your letter of the 14th instant, transferred from the department of customs, relating to rebate on grain freight passing through the Welland and St. Lawrence canals authorized by order in council dated March 25, 1891, and asking whether it be allowed on transshipments at United States ports as at Canadian ports, I am, in reply thereto, directed to forward you the accompanying copy of the said order in council above referred to.

I have, etc.,

A. P. BRADLEY.
Secretary.

ORDER IN COUNCIL.

GOVERNMENT HOUSE,
Ottawa, Wednesday, March 25, 1891.

Present, His Excellency the Governor-General in council.

His Excellency, having had under consideration the tariff of tolls on the canals of the Dominion and the several orders in council under which a special rate has, from time to time, been established temporarily on certain food products passing through the Welland Canal and through the St. Lawrence canals for shipment at Montreal and ports east of Montreal, is pleased to order, in virtue of the powers vested in him by chapter 37 of the revised statutes, intituled "An act respecting the department of railways and canals," and by and with the advice of the Queen's privy council for Canada, that the following amendments shall be, and the same are hereby, made to the tariff of tolls in force on the said canals, viz:

A refund shall be made on the tolls collected on wheat, Indian corn, peas, barley, rye, and (if for export) oats which may be carried through the Welland Canal and the St. Lawrence canals to Montreal or any port east of Montreal.

The refund shall be such as to reduce the tolls to 2 cents per ton of the said products or any of them, and the conditions of such refund shall be the following:

(1) The products aforesaid, on which the refund may be claimed, shall be shown to have been originally shipped for Montreal or some port east of Montreal before entering the Welland Canal; and,

(2) Shall be shown to have been actually carried to Montreal or some port east of Montreal.

(3) Transshipment, if at a Canadian intermediate port, shall not prevent the refund aforesaid being made.

This order in council shall remain in force only for the present year, 1891.

JOHN J. McGEE,
Clerk of the Privy Council.

REVENUE FROM CANALS.

DEPARTMENT OF RAILWAYS AND CANALS,
Ottawa, March 31, 1891.

In carrying out the provisions of the foregoing order in council, the collector of canal tolls at Port Colborne, Welland Canal, will collect the full rate of tolls and issue an official voucher therefor; the reduction will be paid by the department as a refund upon evidence being furnished by the shippers that the conditions of the order in council have been complied with.

The vouchers, properly indorsed, must in all cases accompany the application for a refund of the tolls referred to.

B. H. TEAKLES,
Chief Clerk, Canals Revenue.

DEFINING THE ORDER IN COUNCIL.

GOVERNMENT HOUSE,
Ottawa, Wednesday, April 29, 1891.

Present, His Excellency the Governor-General in council.

His Excellency, under the authority conferred upon him by chapter 37 of the revised statutes, intituled "An act respecting the department of railways and canals," and by and with the advice of the Queen's privy council for Canada, is pleased to order that the provisions of the order in council of the 25th day of March, 1891, authorizing the reduction of toll to two cents (2 cents) per ton for the passage through the Welland and St. Lawrence canals of certain agricultural products therein named shall be understood to apply to any portions of such cargoes lightered at Port Colborne and reshipped at Port Dalhousie, and also that the provisions of the said order be made applicable to the therein-named products when shipped from Canadian Lake Ontario ports.

JOHN J. McGEE,
Clerk of the Privy Council.

REDUCTION OF CANAL TOLLS.

Certified copy of a report of a committee of the Honorable the privy council, approved by His Excellency the Governor-General in council on the 18th of May, 1891.

The committee, on recommendation of the minister of railways and canals, advise, with reference to the orders in council dated, respectively, the 25th of March and the 29th of April last, authorizing the reduction of canal tolls on certain food products, the provisions of which orders are carried out by way of refund of the excess of tolls paid, that such refund be made after the close of the present season, on or about the 1st day of December, and not during the season, as heretofore.

JOHN J. McGEE,
Clerk of the Privy Council.

CONSUL-GENERAL LAY TO SIR JOHN MACDONALD.

[Inclosure 3 in Consul-General Lay's report.]

UNITED STATES CONSULATE-GENERAL,
Ottawa, May 19, 1891.

SIR: Application has been made to the Department of State at Washington to know whether the order in council of March 25, 1891, in reference to the rebate on canal tolls precludes transshipments made at United States ports from the benefit of such refund.

It is understood that shippers of grain by the lakes and Welland and St. Lawrence canals construe the order in council as excluding the refund to all such transshipments.

I am instructed by the Department to report on this subject, and I have the honor to request to be informed by you of the proper interpretation of said order as applying to United States ports.

I am, etc.,

RICHARD G. LAY,
Consul-General.

BUSINESS AND REVENUE OF CANADIAN CANALS.

[Inclosure 4 in Consul-General Lay's report.—From the official report of 1891.]

The total revenue from canal tolls for the season of 1890 was $348,059, compared with $381,109 the previous year, an apparent decrease of $33,049, but an actual decrease, taking an account of rebates, of $25,959.46.

Of the 245,932 tons of grain which passed through the Welland Canal to United States ports 16,433 tons were transshipped at Ogdensburg and passed down the St. Lawrence to Montreal.

As this was a new departure in the transshipment of grain for Montreal, and not anticipated at the time of passing the order for the reduction of tolls on grain, it was not considered that the transshipment of grain at a United States port came under the order in council of February 27, 1890. Upon the urgent request of the forwarders and others, His Excellency in council, on the 22d of November, 1890, passed an order in council authorizing a refund of tolls paid on the Welland and St. Lawrence canals above 2 cents a ton on the quantity of grain so transshipped at Ogdensburg for Montreal. The rebate on the former amounted to $2,957.94 and on the latter to $232.04.

The quantity of grain passed down the Welland Canal from United States ports to United States ports has steadily increased each year, from 47,029 tons in 1880 to 245,932 tons in 1890, an increase of 198,903 tons.

The quantity that reached Montreal through these canals for 1890 was 228,513 tons, compared with 267,769 tons in 1889 and 333,806 tons in 1880, showing a decrease for 1890 from 1889 of 39,256 tons and from 1880 of 105,293 tons.

The railways have become great competitors with the canals for the through grain trade. While the through grain traffic on the canals is declining, the quantity carried eastward by rail is yearly increasing both in Canada and the United States.

The canal grain trade decreased 11.92 per cent. in Canada last year and 8.94 per cent. in the United States, while the increase in the quantity of grain carried by rail was 25.55 per cent. in Canada and 22.72 per cent. in the United States.

The quantity of barley, corn, oats, peas, rye, and wheat arrived at Montreal via the Grand Trunk and Canadian Pacific railways for a period of 9 years is reported as follows:

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1882	75,026	1887	191,760
1883	98,672	1888	113,794
1884	142,231	1889	94,943
1885	160,821	1890	119,208
1886	165,613		

The quantity of the same articles passed down the whole length of the St. Lawrence canals to Montreal for the same period was as follows:

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1882	230,055	1887	237,881
1883	263,368	1888	166,191
1884	174,496	1889	275,414
1885	134,824	1890	242,571
1886	272,133		

The quantity of grain passed down the whole length of the St. Lawrence canals to Montreal is as follows: 1889, 275,414 tons; 1890, 242,571 tons; decrease, 32,843 tons.

The quantity of grain to Montreal via the Canadian Pacific and Grand Trunk railways is reported as follows: 1889, 94,943 tons; 1890, 119,208 tons; increase, 24,265 tons.

The quantity of grain to tide water by New York canals is reported as follows: 1889, 1,242,804 tons; 1890, 1,131,289 tons; decrease, 111,615 tons.

The quantity of grain carried to tide water by the New York railways is reported as follows: 1889, 2,481,501 tons; 1890, 3,045,302 tons; increase, 563,801 tons.

The increase and decrease for 1890, as compared with 1889, on the several routes competing for the carrying trade to the seaboard are as follows:

Routes.	Quantity.		Percentage.	
	Increase.	Decrease.	Increase.	Decrease.
	Tons.	*Tons.*	*Per cent.*	*Per cent.*
St. Lawrence canals		32,843		11.92
Canadian Pacific and Grand Trunk railways	24,265		25.55	
New York canals		111,615		8.94
New York railways	563,801		22.72	

TRANSSHIPMENT OF GRAIN.

Two Canadian vessels took their cargoes of 1,064 tons of grain through to Montreal intact in 1888, against 1 with 425 tons in 1889 and 3 with 1,281 tons in 1890; 39 Canadian vessels lightered their cargoes at Kingston in 1888, against 54 in 1889 and 63 in 1890; 201 vessels discharged the whole of their cargoes at Kingston in 1888, against 267 in 1889 and 172 in 1890. The quantity of grain transshipped at Port Colborne in 1890 and the 3 previous years is given below. The total number of grain-laden vessels lightered at the port in 1890 was 83, against 47 in the previous year. Three vessels entered the canal without unloading in 1889, but none in 1890.

The quantity of grain lightered was as follows:

Grain.	1887.	1888.	1889.	1890.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	83,850	11,440	37,222	4,310
Corn	263,277	133,014	254,690	773,687
Oats	....	....	8,218	44,294

The quantity of grain passed down the Welland Canal in Canadian and United States vessels to Kingston for 5 years is as follows:

Year.	Canadian vessels.		United States vessels.	
	No.	Tons.	No.	Tons.
1886	244	143,330	97	62,222
1887	284	178,233	19	12,477
1888	182	143,025	60	43,667
1889	208	165,117	114	108,358
1890	203	184,275	35	35,560

The quantity of grain discharged in this port from vessels which did not enter the canal was as follows:

Grain.	1888.	1889.
	Bushels.	*Bushels.*
Wheat	72,592	8,608
Corn	23,575	....

Notwithstanding the enlargement of the Welland Canal, the number of vessels having to lighter a portion of their cargoes from 45 to 80 tons each has reached 83, the highest number for any year since 1880. Of these, 81 were United States steam vessels and 2 United States sailing vessels.

COTTON-GROWING IN RUSSIA.

REPORT BY CONSUL-GENERAL CRAWFORD, OF ST. PETERSBURG.

In obedience to instructions dated January 26, 1891, I have made a study of cotton-growing in south and oriental Russia, and I have prepared the following report upon this important branch of agriculture for the use of the Department.

The cultivation of cotton in the Transcaucasus is gradually extending; especially has that of American cotton lately made rapid progress. This progress is particularly remarkable in eastern Transcaucasus, and, above all, in its principal center, the province of Erivan, where very favorable soil for cotton-growing is found. In western Transcaucasus, where economical conditions are at great variance with those of the east, cotton culture, if it improves at all, does so but slowly. I have no information concerning the cotton crop of 1888 in western Transcaucasus, but I have a sufficiently detailed account of the conditions of growth and crop of cotton in eastern

Transcaucasus, and particularly of that in the province of Erivan, furnished by M. Taratinow, manager of an experimental cotton-culture station in Erivan.

The spring and summer of 1888 in the province of Erivan having been unusually cold and rainy, agricultural products in general, and cotton in particular, were irregular and poor. There were but a few hot days in the beginning of August when the temperature rose to +33° Réaumur in the shade; during the other portion of the season the weather was so cool that melons and grapes ripened only in September. On the 25th and 26th of August heavy rains fell, unusual at that time of the year, after which the temperature lowered considerably. A hailstorm, which on the 10th and 13th of June ravaged several cotton fields in the Etchmiadzin and Soormalinsk districts, almost entirely destroyed the cotton crop. A wet summer and other unfortunate circumstances developed the cryptogamic disease known as rust to an extent unheard of before. The rust, which had blighted American cotton in former years, had never been observed on the local product, called "kara-kosa." At first the rust appeared on the cotton plant in the districts of Charoursk, at Arazdayan (Erivan), and of Soormalinsk, where the dampness of the ground and other conditions were favorable to its development. From these places the disease spread over other districts, destroying almost 50 per cent. of the crop. In the Etchmiadzin district, where the ground is not so marshy and damp, the rust appeared only at the end of August, and in a milder form than in the above-mentioned places, where by this time the cotton plant, under the progress of the disease, stood leafless and deprived of half its fruit. In the Nakhchivan district, where there are no swamps and water is not abundant, the rust did not appear at all. The character of the disease which caused such disaster in the province of Erivan is the same as that known in America by the name of black or brown rust, which affects the cotton plant, and is occasioned by too much dampness. Both the quality and quantity of cotton were impaired last year in the province of Erivan by early frosts, which began about the 10th of October, and finally destroyed the plants.

In consequence of the circumstances related above, the cotton crop of the province of Erivan for 1888 was considerably less than the average, and in some places it was very poor. The province of Erivan produced about 14,400,000 pounds of cotton of superior grade in 1887, and, having enlarged its plantations to a great extent in the Charoursk, Etchmiadzin, and Nakhchivan districts, it only yielded about 10,800,000 pounds in 1888, that is to say, two times less than was anticipated. Besides this, the quality of the cotton proved inferior to that of 1887.

The bad quality of the cotton had an unfavorable effect on its price. In 1887 the average price of cotton was 10 rubles ($5) per 36 English pounds, and in 1888 it did not exceed 7 rubles ($3.50). The price of cotton at Erivan in December, 1887, was: For cotton from American seed, from $4.50 to $5.50 per 36 pounds, and it rose to $6.25, or 5¾ cents per pound, for the best grades; the local cotton was sold at from $3.50 to $4.50, and even $5.50, per 36 pounds in 1887, while in 1888 for the best kind of cotton from American seed $4 to $4.20 per 36 pounds were paid, and local sorts were sold at from $2.75 to $3.75 per 36 pounds.

Last year's cotton crop in the province of Erivan was all the more unsatisfactory because of the fact that such pains had been taken by several firms in the Caucasus to improve the culture of cotton in the province of Erivan, and the plantation had been largely increased.

The Industrial Trading Society and the great Yaroslaw Manufacturing Company ordered from America 108,000 pounds of cotton seed and sixteen gins. The cotton seed was immediately distributed among the inhabitants, without cost, on the sole condition that the crop from this seed should be sold to the above-named firms according to the existing price in the Erivan market. The gins were established in the most important centers of cotton culture, namely, Bashnoorashen, Engidje, Etchmiadzin, Igdeer, Koolpach, and others. Nothing was charged by the above-named firms for the use of the gins to parties who were selling them their cotton, while others, selling their cotton elsewhere, were required to pay one-twentieth of the crop as toll to the ginning mills.

The same firms established presses in the province of Erivan, which worked during 10 hours daily and pressed from 30 to 40 bales of cotton. Besides these facts, the Yaroslaw Manufacturing Company has erected in Erivan its own buildings, such as granaries, press houses, offices, etc. All this makes it evident that the cotton culture in the province of Erivan is not only gradually increasing, but has succeeded in attracting the attention of Russian manufacturers, thus securing the sale of the cotton on the spot. The importance of this culture for the local inhabitants is demonstrated by the fact that in 1887, in the district of Erivan alone, ninety-one villages were occupied with this branch of agriculture, and in the district of Charoursk only four villages out of sixty-one did not cultivate cotton because they had not the proper quantity of water required by the cotton plant. In the district of Etchmiadzin cotton was planted everywhere where a sufficient quantity of water for summer irrigation was expected.

In 1888 a very interesting experiment was made at the cotton-culture station in the Garden of Sardar, at Erivan, relative to the culture of different kinds of cotton. The result of the experiment was not conclusive as to the choice of the fittest kind for local cultivation, but none the less deserves mention. The cotton plant which proved to mature sooner than any others was the Shines' Early, of North Carolina, which, although sown much later than other kinds, blossomed first and produced the richest results. The second kind which matured early was the plant known as Allen's Long. A third kind, obtained from seed from the State of Virginia, appeared next on the list for early maturity and first in quality and quantity of fiber (36 per cent. raw), having extraordinarily long, shiny, thin, and strong staple. The fourth kind, especially recognized for its early maturity and the extraordinary size of the boll (attaining that of a hen's egg), was the Duncan Mastodon Prolific. The fifth kind, very like the latter, is Oxier's Silk, and is the sort generally adopted throughout Erivan. The other kinds did not distinguish themselves in any way, excepting the Sea Island cotton, which did not ripen at all, being destroyed by the frost on the 10th of October without having produced a single ripe pod.

These experiments can not be considered as conclusive, because, first of all, they have existed for too short a space of time, and, secondly, because American cotton seed is liable to undergo alteration in the change of soil and climate if sown during several years consecutively in this country; yet these experiments are interesting because they are the first that have been made systematically on the different varieties of American seed. Mention is also made of a kind of experiment made by the firm of Savy Morosoff, in Karayaz in the province of Tiflis. This experiment consisted in sowing the cotton seed on sample fields in different parts of the Transcaucasus, in order to find out the soil and climate required for this kind of culture. This experiment failed on account of the unfavorable conditions of the weather in the spring and summer of the year 1888 in the province of Erivan. To the above misfortune must be added the appearance of the boll-worms at the end of July, which injured and destroyed the blossoms and pods until the end of September; thus a plantation of 281 acres yielded only 36,000 pounds of raw cotton, or about 10,080 pounds of clean fiber. The firm of Savy Morosoff ordered 25,000 pounds of Texas and Louisiana cotton seed, which they proposed sowing on 155 acres of land at Karayar and 76 acres at Bozchalinsk, in the province of Tiflis. The second experiment of raising American cotton was made in the district of Kooban, province of Bakinsk, and evidently proved satisfactory.

The endeavors made to introduce American cotton in Turkestan began in the year 1870, but it is only recently that the new culture has begun to take root and improve rapidly. This fact is rendered evident by the following agricultural statistics: In 1884 about 810 acres of land were sown around Tashkend, which produced 360,000 pounds of cotton; in 1885 2,700 acres of land were sown, and yielded 1,080,000 pounds of cotton; in 1886 American cotton seed was sown on 32,400 acres, and the crop was expected to render 3,600,000 pounds of cotton, but, in consequence of morning frost, it gave only 2,160,000 pounds; in 1887 38,712 acres of land were sown with American seed, almost all in the neighborhood of Tashkend, and produced 7,632,000 pounds of cotton fiber, worth over $750,000.

According to official data obtained in 1888 the cotton plantations occupied—

District.	American.	Persian.
	Acres.	*Acres.*
Syr-Darya	35,762	17,194
Ferghana	55,304	85,572
Samarcand	2,454	18,846
Total	93,520	121,612

As far as can be realized from reports presented (some of which, as those relating to the district of Samarcand, are evidently false), the proceeds expected from the crop in 1888 were:

District.	American.	Persian.
	*Pounds.**	*Pounds.**
Syr-Darya	9,685,656	2,130,552
Ferghana	9,994,248	12,221,028
Samarcand	538,128	1,733,644
Total	20,218,032	16,085,224

* English.

Thus the cotton culture in Tashkend produced this year 20,218,032 pounds from American seed and 16,085,224 pounds from local seed, making a total of 36,303,256 pounds, valued at about $3,500,000. The actual result of the local cotton crop is much greater than that shown, but the natives try by every means to hide the real result for fear of having to pay cotton-field taxes.

Clean cotton sold in Tashkend at 10½ cents a pound from American seed and 7½ cents per pound for that from local seed.

This year's cotton crop in the Syr-Darya district was much below the average in consequence of cold nights in the month of August and the beginning of September, which prevented the ripening of the pods. Half of the fruit was frozen and produced unripe fiber of an inferior quality. In some places cotton was impaired by a caterpillar, the *Heliothio armigera.*

In the Ferghana district the crop was much finer and more regular. The average yield per acre of raw cotton from American seed was 533 pounds, and from local seed only 426 pounds, per acre. One-third part of this quantity is clean fiber. The Syr-Darya statistical committee presented the following statement concerning the results of cotton culture and the prices of cotton in the district of Syr-Darya:

In 1888 there were sown 69,770 acres of land, of which 27,259 acres were sown with local seed and 42,511 acres with American seed. The crop obtained was 7,471,728 pounds of raw cotton from local seed and 30,625,740 pounds from American seed. The clean local cotton sold at 6½ and 7½ cents per pound, and the superior grade of American seed cotton sold at 10½ and 11 cents, the lower grade bringing from 6¾ to 8⅓ cents per pound. The inferior grade consisted of about one-sixth of the crop. In the Amoo-Darya for a pound of unclean cotton from local seed 1¾ cents was paid and for clean cotton 8¼ cents, while unclean cotton of American seed sold at 3 cents per pound and clean cotton at 11 cents per pound. The conditions required for the growth of the cotton plant in 1888 were quite favorable. The sowing was done in April, and it turned out that some of the seed had been destroyed, and the first growth impaired, by a caterpillar of the butterfly *agrotis,* so that some portions had to be sown over again. Harvest took place between October, 1888, and January, 1889. The ripening of the cotton was somewhat delayed by the low temperature in September. In some places the sowing of cotton was prevented by a hot and dry wind on the 15th and 16th of July and on the 2d and 3d of August.

The tillage of fields and all the other works necessary to cotton culture were more expensive this year than usually, hand labor being dear. The fiber was inferior to that of 1887. In 1888 the tillage of an acre of land cost Russian planters from $16 to $20 and the natives from $6.50 to $7.

In the Khiva-Khanate, according to reports obtained from the Amoo-Darya department in 1888, there were 5,392 acres of land sown with 1,078,200 pounds of seed. Only local seed was used, which gave a crop of 12,938,400 pounds of cotton. Unclean cotton sold at 65 cents, and clean cotton at $2.97, for 36 English pounds.

In the district of the Transcaucasus the works for the irrigation of the Merv Oasis were carried on with great energy, and small fields of cotton were planted, which apparently gave satisfactory results.

Among the seed sent by the agricultural department to the south of this Empire and to the Caucasus for experiments was cotton seed produced in Macedonia, which was supplied in the spring of 1888 to persons and establishments who desired to make experiments with this variety. These experiments were made in the provinces of Kief, Kherson, Taurida, Astrakhan, and Samara, and also in the territories of the Don, Tersk, and Kooban. Notwithstanding the facts that the seed was sent rather late and that the summer of 1888 was cold and damp, it was reported to the agricultural department from some of these localities that the cotton plant had not only blossomed, but had given quite ripe fruit. The most favorable results had been obtained in some parts of the provinces of Kherson and Astrakhan, and also in the territories of the Don, Tersk, and Kooban, where nearly all the fruit of the cotton plant matured and gave ripe fiber sufficiently long, silky, and strong.

These experiments were, however, too few in number and of too recent date to be conclusive as to the possibility of introducing cotton culture in the southern provinces of Russia to the best advantage, but they rendered evident the fact that cotton-growing, even under unfavorable circumstances, may be made successful in many localities in the south and east of this Empire.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, February 26, 1891.

THE DEPOPULATION OF FRANCE.

REPORT BY CONSUL KNOWLES, OF BORDEAUX.

A cry of alarm, emanating from a no less distinguished physician than Dr. Lagneau, of Paris, and embodied within an address delivered before the Academy of Medicine, has recently been resounding throughout France.

The nature of this outcry, or I should rather say its subject, is the depopulation of the French Republic.

The topic is not a new one. M. Charpentier has several times before warned his fellow-citizens of the appalling decrease in their country's birth rate. Statisticians, scientists, political economists, hygienists, and litterateurs join periodically in one grand chorus, urging the sterner sex to more conscientiously and patriotically fulfill the obligations of life; in short, to present the State with more sons and daughters.

Not long ago the Journal Officiel gave its readers some very interesting statistics regarding the annual decrease in the population and the extremely serious condition of affairs that has for some time past been hovering like some frightful nightmare over the French people. The writer of the article does not hesitate to assert that, unless some immediate change takes place, the French nation will, in a comparatively short space of time, be totally extinct.

The following statement shows the births in France from 1884 to 1888, inclusive:

1884	937,750
1885	924,558
1886	912,838
1887	889,333
1888	882,637

The decrease, it will be readily observed, is neither gradual nor interrupted. To make use of a somewhat facetious expression of the writer, "the array of figures, at first glance, looks like a succession of bad crops."

What is to be done? The problem awaits solution.

As far as nature herself is concerned, she has, since the creation, taken the wisest and most practical precautions regarding the conservation of species, and our alarmed and disquieted savants have nothing to ask of her. It is evident that the *radix mallorem* lies with the Gallic race. If the remedies to be applied, however, are as numerous as the various theories propounded, their proper employment and administration will be a science in itself.

There exists a certain set (members of the French Academy of Medicine) who state that the steady decrease in the birth rate of the Republic is due to the existence of diseases difficult to name. Others, in turn, assure us that these diseases are less prevalent in France than in any other civilized country, and statistics would seem to confirm the statement.

There are those who condemn late marriages and attribute to them the present condition of affairs. Contrary-minded ones are opposed to the *vinculum matrimonii* too early in life. These dissenting gentlemen may possibly convene and prescribe the proper age.

Marriage is a most difficult proceeding at best under the French law, and the documents and papers necessary for its accomplishment not only wearisome to obtain, but extremely expensive. The rigorous formalities imposed in the process of acquiring a marriage certificate should be abolished by the Republic, the fees reduced, and the entire execution simplified. France, for a number of very good reasons, is preëminently a country of taxation. There is a tax on life and a tax on death; there is a tax on existence in general. Perhaps, were there not so much taxation, and were the French people partially relieved of the burden they have to bear in order to support the largest standing army in the world, the birth rate would increase and more children than the poorer classes can now conveniently provide for and educate would be brought into the world. And yet how to reduce these very taxes is a question of more than momentary consideration.

It has been proposed, nevertheless, upon a number of occasions in the Chamber of Deputies to temper taxation in proportion to the number of children in the family of the taxpayer. For example, the father of seven children would be entirely exempt from taxation; the father of six children, liable for one-seventh of the tax; the father of five, two-sevenths; four, three-sevenths; and so on in inverse proportion. On the other hand, in order to counterbalance the deficiency in the revenue caused by this system, a tax would be levied upon bachelors, increased year by year in direct proportion to their ages, thus offering a continual incentive to matrimony. The idea is an excellent one, and should be put into practice at once.

The fears of Malthus, who contended that in the human species the product was endowed with the same power of production as the producer—that is to say, that if one produced two, two would produce four, four eight, and so on, and that, unless a brake were put upon the reproductive power of man, the epoch would arrive when the inhabitants of the globe would be unable to find subsistence sufficient to its requirements—have no terrors for the French.

Within a few days Monsieur Rochard, who some time since was charged with the commission to investigate and report on the depopulation of France, has made known the results of his labors in a lengthy paper read before the Academy. It is classed into ten separate heads. Five of these divisions serve to advance the theory that smallpox and varioloid are prime factors acting in the depletion of the population. Vaccination is recommended and encouraged in order to remedy the evil. The remaining five paragraphs are of no importance.

It is scarcely within the province of this report to comment upon the various individual theories advanced upon the subject within the walls of the Academy of Medicine or elsewhere. The paper in question, however, illustrates in a measure how readily some of the French savants are misdirecting their energies. It is not from this angle of vision that a remedy is to be found. Smallpox is no more prevalent in France than in other countries. It is a side issue of a side issue, and not worth discussion. Local municipal regulations and the health authorities will look after it as well as other diseases. The facts presented are significant, and it is obvious that, if any official action is to be taken in the matter, it must not be delayed. It is absurd for the French scientists to retard the wheels of progress by indulging in pet theories.

The revision proposed in the system of taxation is a reasonable one, and would, no doubt, if put into operation, produce beneficial results. Let the Government put a premium, instead of a forfeit, on birth, make the marriage license more readily attainable, stimulate celibates to matrimony, and note the consequences.

HORACE G. KNOWLES,
Consul.

UNITED STATES CONSULATE,
Bordeaux, March 10, 1891.

TRADE AND INDUSTRIES OF WINDSOR, ONTARIO.

REPORT BY CONSUL JOSLYN.

AGRICULTURE.

Agriculture occupies the attention of the greater portion of the people of this district. The main articles of export are horses, sheep, beans, barley, stave and heading bolts, hard-wood lumber, wood, charcoal, and hides. All these may be properly classed as agricultural products, because nearly all the farmers utilize their time in winter to get out bolts, wood, lumber, and charcoal. In fact, it may be said that they rely fully as much on their winter, as their summer, work. The market for these products is the United States, and undoubtedly will be as long as the material lasts.

The new tariff law enacted by our Congress last year will materially diminish the acreage planted and sown to beans and barley. The stringent regulations relative to the importation of breeding animals has practically stopped the exportation of cheap and inferior animals, especially horses. As a consequence, horses which would sell readily last year for $125 can not be sold for more than $75 now. As this difference is far greater than the difference between the old and new tariffs, it is fair to conclude that the cause of the depression is in a great measure due to the new provisions relative to breeding animals. That the farmers in this district realize the disaster which has overtaken them is shown by the table herewith sent in connection with the subject of emigration.

The Canadian farmer is also handicapped by the high price of agricultural implements. In fact, it may be said that all machinery is fully 15 per cent. higher here than just across the river, while furniture is 20 per cent. higher, and at the same time is much inferior in quality and design.

The mortgage laws, too, give the money-lender a much stronger hold on the farm than in the United States. Inasmuch as a decree of foreclosure may be had which passes the title without resort to a sale, some lenders prefer a second to a first mortgage, if the margin is sufficient. One capitalist in this county has acquired several thousand acres by the process of loaning on and foreclosing second mortgages. Having sufficient means to control the first mortgage, he pays it or lets it run, whichever is most profitable to him.

The average price of farming land is about $40 per acre. The soil is good and very productive, and is especially well qualified for diversified farming.

EMIGRATION.

The emigration from this district has been something remarkable. I have prepared a small table showing relatively the emigration from this district during the last 4 months of each year for 10 years past:

Year.	September.	October.	November.	December.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*
1881	3	4	3	2	12
1882	2	1	1	2	6
1883	4	2	2	....	8
1884	2	5	2	....	9
1885	6	6	7	6	25
1886	8	3	2	3	16
1887	1	3	2	3	9
1888	....	2	1	2	5
1889	4	7	4	1	16
1890	40	55	34	19	148

The foregoing shows that in the last 4 months of the year 1890 forty-two more emigrants went from this district than during the corresponding months of the entire preceding 9 years.

I have no records to show what proportion of these emigrants had families, but I know from recollection that of those who went during the last 4 months of 1890 at least 90 per cent. had families.

The total value of the personal and household effects taken to the United States by emigrants during the said 4 months of 1890 was $30,691.80. It should be borne in mind that these records do not show all the emigration, but only of those whose effects amounted to $50 and upwards, and from December 1 only those whose effects amounted to $100 and upwards.

The greater portion of these emigrants, as I have already said, were farmers, and were desirable additions to our wealth-producing class. I do not recall one of the farmer class who could not read and write. Every one went directly to some farm usually already bargained for or rented.

Of the laborers nearly all were skilled, intelligent, and fairly educated, and generally had enough household effects to start comfortable housekeeping.

It is apparent, therefore, that the emigration from this district is not of the "pauper" kind.

LABOR.

I have made labor a subject of consideration and investigation nearly every week since I came to this office, with a view, originally, of informing myself for another purpose than reporting the same to the Department.

So far as unskilled labor is concerned, there is no material difference between the rate of wages paid in this district and the rate in Michigan or other Western States. Every summer from 400 to 500 common laborers residing in Detroit can be seen daily crossing the Detroit River to work on sewers and paving and grading streets in Windsor. There are seven branches of Detroit manufacturing houses located here, and, so far as I can learn, all pay the same wages to common laborers here as in Detroit.

It is true, however, that the same ferryboats which bring these laborers to Windsor take, on their return trip, about an equal number of skilled laborers to their daily work in Detroit, where they can secure better wages than here.

While it is true that there is no difference in wages paid to common laborers, it is equally true that wages paid to skilled labor are higher the moment the border line is crossed; and the more skilled the labor the more marked the difference in the rate of wages paid. Neither is the distinction between this port and Detroit an exception to the rule. While it is true that wages in Windsor are slightly higher than in the interior of Ontario, it is also true that wages in Detroit are higher than in the interior of the State.

I have investigated all branches of industry—lumbering, logging, shipping, manufacturing, and farming—and in all these the rule holds good, viz, that there is no material difference between wages paid to common laborers in Ontario and those paid in Michigan, but that there is a marked difference in favor of the United States between wages paid to skilled labor in the two countries.

I can not forbear the remark that our own country puts a premium on intelligent labor.

COST OF LIVING.

Closely connected with this subject is the question of the cost of living. When I removed my habitation to Windsor, I was much surprised to find that living expenses were higher than at home. All kinds of meat, flour, and corn meal are slightly higher, while groceries are at least 20 per cent. higher. As to the grade or quality, meats and all canned goods are much inferior to our own, excepting mutton; as to the latter, I have never found anything in the United States that can compare with Canadian mutton.

All kinds of cotton goods are 50 per cent. higher here than in Detroit. The finer grades of woolen cloths are about 25 per cent. cheaper here; but the coarser goods, either in the cloth or made up into goods, can be had from 10 to 15 per cent. cheaper in the United States.

The condition of things relative to rents is somewhat peculiar. For $25 per month a house and grounds can be had here, which would rent for $50 in any town in the United States of equal size. In Detroit, for instance, such a place would rent for five times the amount. But a better house can be had in Detroit for $15 or under than can be got in Windsor for a like amount. The average laborer, therefore, can not rent a house in Windsor any cheaper than, if as cheap as, in Detroit.

I have observed quite a number of cases where skilled workmen from London, Toronto, and other places have secured positions in Detroit, at the same time moving their families to Windsor, getting the higher wages in Detroit, and, as they supposed, getting the benefit of the cheaper living in Windsor; but in most cases after a month or two they have removed their families to Detroit.

The situation, so far as cost of living is concerned, seems to be this: the man of wealth or with an independent income can live and gratify his tastes and desires at less cost than in the United States, but the intelligent wage-earner and the man who has to earn his own living can get better remuneration for his brains and labor in the United States, and support and educate his family at less cost.

The foregoing is purely the result of investigation, and not of preconceived notions.

MANUFACTURES.

Up to 2 or 3 years ago the only manufacturing industry of any moment in this district was that of whisky. The large distillery here is owned by H. Walker & Sons, residents and citizens of the United States. They manufactured last year 1,473,369 proof gallons; their total sales for the same period were 1,103,419 proof gallons. As yet they have not exported much to the United States, the exports last year only amounting to 2,674 gallons. They expect to increase their exports to the United States to about 50,000 gallons this year.

There are now seven branches of Detroit manufacturing houses established in Windsor. They are not inclined to give the amount of their Canadian business, but I am able to state that it will run from 5 to 7 per cent. of their trade. About the only other manufacturing industry is that of staves, concerning which I have already made a special report.

RAILROADS.

There are now three trunk lines of railway centering at Windsor, viz, the Michigan Central, the Canadian Pacific, and the Grand Trunk.

The Canadian Pacific has a through connection with the States west by means of the Wabash. At the present time it is claimed it is carrying to the seaboard fully 60 per cent. of the dressed beef trade.

The Grand Trunk line crosses the border at Port Sarnia, and is continued through to Chicago as the Chicago and Grand Trunk. The Great Western branch of the Grand Trunk Railway comes to Windsor, and also has an outlet by way of the Wabash.

There is a state of affairs that may possibly be worthy of the attention of the Government in the near future.

Some years ago the western roads adopted the practice of carrying grain from the far west to the seaboard, but granting the privilege of stopping en route for milling purposes. This practice, I understand, was instigated by the Minnesota flouring mills to enable them to get the grinding of Manitoba wheat. But other millers—Canadian as well as American—were not slow to see the point, so that now grain is shipped on all the roads before mentioned with milling privileges in Canada.

In view of the fact that the Canadian Pacific will, no doubt, take the greater portion of the Manitoba wheat, I thought that it might possibly become a question whether or not the practice may not eventually build up Canadian flouring mills at the expense of our own. I have not the means of knowing whether the practice is beneficial or otherwise.

SHIPPING INTERESTS.

As the Department has other and better means of information relative to the shipping interests than I can give, I shall only touch upon the subject of wrecking.

The feeling of hostility among owners of wrecking vessels on either side toward the wrecking laws and regulations of the other country seems to be on the increase. I am not inclined to the opinion that the hostility is justified by the circumstances.

I am obliged to say that I can see no material difference between our laws and regulations and those of Canada. As far as I can learn, however, nearly all who are well informed on the subject in either country agree that the wrecking laws might be modified to the advantage of both vessel and cargo-owners. The wrecking business dwindles into insignificance when compared with the capital invested in our great lake carriers and the value of the cargoes transported by them. Rapid transit has become an important factor in the earning power of our freighting vessels. Between Lake Huron and Bar Point, at the head of Lake Erie, are many dangerous shoals and impediments to navigation, and the stranding or grounding of vessels is an almost daily occurrence. I believe it would be a benefit to the lake commerce if a vessel aground or otherwise disabled were allowed to avail herself of the nearest assistance without the delay of first obtaining the permission of one government or the other, as is now the case.

IMPORTS AND EXPORTS.

I am indebted to Mr. Miles Cowan, acting collector of customs at this port, and to his obliging assistants for a portion of the figures below. The Canadian collection district is about the same as this consular district. These figures cover the year 1890.

IMPORTS.

From the United States	$1,294,065
From other countries via United States	71,348
From other countries via Halifax	8,013
Total	1,373,426

EXPORTS.

To the United States:	
Declared	562,569
Undeclared	252,445
To all other countries	52,022
Total	867,036
Imports from the United States	1,294,065
Exports to the United States	815,014
Excess of imports	479,051

Of the imports a large proportion was coal. Of the exports agricultural products formed the greater portion, including wood, staves, stave bolts, and logs.

I am sorry not to be able to give the classification and quantities thereof in detail.

EDUCATION.

It is, perhaps, sufficient to say that the public schools here are much like our own, and in every way excellent.

A feature peculiar to this district may be of interest. Although the law grants separate management for Catholic schools, they are here, by agreement or tacit understanding, under one management, known as the Union School Board. This board erects all the buildings and maintains all repairs. It hires all the teachers, the only limitation being that the teachers for the Catholic schools must be approved by the priest of the parish where the schools are located.

This system has been maintained for many years, and both Protestants and Catholics seem to be well satisfied with the arrangement. As each taxpayer has the right to say what school he wishes to support, there is no difficulty in ascertaining the proportionate expenditure for the Catholic schools.

There are phases of the school question, however, which bid fair to become political questions in the near future, and are liable to have a direct bearing on the relations between the Dominion and the United States. I do not know that it is proper for me to go into the subject, and therefore leave it.

CHAS. D. JOSLYN,
Consul.

UNITED STATES CONSULATE,
Windsor, May 22, 1891.

WAGES AND FOOD PRICES IN HAVRE.

REPORT BY CONSUL WILLIAMS.

I have the honor to transmit as inclosures herewith lists showing the wages paid here in ninety-four occupations, with hours of service and certain special features noted, and the prices of seventy-seven articles of food, fuel, etc., as items of common domestic outlay.

The prices in both lists have been obtained by most careful special inquiry, and are reliable for this month (May, 1891), and are subject to only very slight variations during the year.

In order to insure ready and full understanding, I have reduced weights, measures, and money to the nearest United States equivalents.

The reason why a few of these articles, so high in price here, are still articles of export to the United States, where they are sold much cheaper than here, is that by export all customs duties here are rebated, and the exporter avoids, also, the local tax (octroi), which is by far the more burdensome, while the same articles are admitted duty free to the United States and pay no local tax whatever. For example, a 40-gallon cask of vinegar pays here a duty of $1.32, and is taxed at the octroi $3.81 besides, before it reaches the consumer, or a total of $5.13 per 40 gallons, which is in excess of the average American price. Again, the duty here on all grades of raw coffee is 14 cents per pound, which nearly or quite equals the average wholesale price in the United States during the period from 1880 to 1890. In other words, if the coffee-consumers of France were to receive their coffee gratis in Brazil, it would still cost them as much when on their tables as is now paid, or as has for many years been paid, by the consumers of the United States.

My preparation of the lists has been inspired as an answer, at least in part, to the question why emigrants crowd every steamer leaving Europe destined for the United States, and to show the most patent and potent fact that if any Europeans live cheaper than do similar classes in the United States it is simply and solely because they live vastly poorer.

Such figures as I inclose—and at least equally unfavorable ones might be stereotyped for all Europe—make indelible the conviction that the United States is the best place on earth for a man to live, whether he be rich or poor.

OSCAR F. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Havre, May 20, 1891.

WAGES IN HAVRE.

[Inclosure 1 in Consul Williams's report.]

The hours of service and wages of ninety-four occupations in Havre are as follows:

Blacksmiths, $1.25 per day, working 10 hours.

Bookkeepers, $48.25 to $67.55 per month; actual work, 7 hours per day.

Bricklayers, $1.25 per day, working 10 hours.

Brickyard employés—good molders, 97 cents to $1.16 per day by piecework; laborers, 48 to 57 cents per day, working 12 hours.

Butchers—capable men, $19.30 to $38.60 per month, with board and lodging in the shop; second-class men, $9.65 to $15.44 per month, with board and lodging at slaughter-house.

Cab-drivers, 39 cents per day and gifts; work all hours of day and night.

Coal-heavers, 97 cents per day, working 9 hours.

Clothing-cutters, $77.20 per month, working 10 hours per day.

Cooks—male, $28.95 per month and board, working daily from 8 a. m. to 10 p. m.; female, $7.22 per month, with board and lodging, working daily from 6 a. m. to 8 p. m.

Coopers—foremen, $1.27 per day, working 11 hours.

Custom-house deputies—brigadier, $25.09 per month; second brigadier, $23.16 per month; common deputy, $19.30 per month; said wages include lodging alternate nights. Uniforms are supplied, for which $4.25 per month is retained from wages. Service is by order, alternate days and nights.

Farm laborers—male, $5.79 to $6.72 per month and board, working from daylight until dark, and extra for haying and harvest of 39 to 57 cents per day, without board; female (extra for haying and harvest), 19 to 29 cents per day, without board, and working from daylight until dark. Two hours' rest is allowed, all at noon.

Furniture-makers, $1.16 per day, working 10 hours.

Gardeners—male, 77 cents per day, working 10 hours; female, 29 to 38 cents per day, working 11 hours.

Gas-works employés, 68 cents to $1.16 per day, according to capacity, working 10 hours.

Glove-cutters—male, 58 cents per dozen pairs (if competent, can earn $23.16 to $25.09 per month); female, 35 cents per dozen pairs (if industrious, can earn $7.72 to $9.65 per month).

House carpenters, 97 cents per day, working 10 hours.

Journeymen tailors, 97 cents per day, working 11 hours.

Laborers—excavating cellars, etc., 57 to 68 cents per day, working 10 hours; in shipyards, $1.35 per day, working 10 hours.

Laundresses, 39 cents per day and board, working 12 hours.

Machinists, 97 cents per day, working 10 hours.

Mail-carriers, $19.30 per month, working every day from 5 a. m. to 8 p. m.

Oil-refinery employés, working 11 hours—foremen, $1.27 per day; laborers, 74 to 95 cents per day; carpenters, $1.06 to $1.17 per day; blacksmiths, $1.06 to $1.17 per day; tinsmiths, $1.06 to $1.17 per day.

Painters, $1.17 per day, working 10 hours.

Paper-hangers and decorators, piecework, not fixed.

Plasterers, $1.54 per day, working 10 hours.

Policemen, $23.16 per month, hours by regulation.

Post-office clerks—first year, supernumerary, no pay, working 10 hours per day; second year, $231.60, working 10 hours per day; after which pay increases $57.90 per year until $772 per year is paid, this being maximum.

Railroad employés—engineers, $67.55 per month, according to service; firemen, $28.95 per month, according to service; laborers, $19.30 per month, working 10 hours per day.

Sailmakers, $1.16 per day, working 10 hours.

Servants (female), $1.11 per week, with board, lodging, and washing, working from 6 a. m. to 10 p. m.

Ship carpenters, $1.54 per day, working 10 hours.

Soap manufactory employés—foremen, $1.27 per day, working 11 hours; laborers, from 74 to 95 cents per day, working 11 hours.

Soldiers are paid only as follows, for every 5 days: Privates, 7 cents; corporals, 21 cents; sergeants, 53 cents; quartermasters, 53 cents; sergeant-majors, 97 cents.

Steamship employés (transatlantic), per month—captains, $67.55 to $96.50; first mates, $57.90 to $67.55; second mates, $28.93 to $48.25; chief engineers, $77.20 to $96.50; second and third engineers, $48.25 to $67.55; pursers, $38.60 to $77.20; interpreters, $17.37; second interpreters, $7.72 to $15.44; stewardesses, $7.72; infirmary men, $13.51; first firemen, $21.23 to $23.16; second firemen, $21.23 to $23.16; second-class firemen, $15.44 to $18.34; coal-heavers, $11.58 to $13.51; boatswains, $21.23 to $24.13; carpenters, $19.30 to $23.16; sailmakers, $13.51 to $15.44; seamen (able bodied), $14.48; seamen (ordinary), $7.72; common sailors, $12.55 to $13.51; boys, $4.83; doctors, $57.90 to $77.20. Nearly all steamship employés are not paid during time when ship is at her home port.

Stonecutters, $1.25 per day, working 10 hours.

Street-car conductors, 68 cents per day and 1 per cent. of car's receipts, working from 5 a. m. until midnight.

Street-car drivers, wages, benefit, and time same as conductors.

Street laborers, 39 cents per day, working 10 hours.

Teamsters, $4.83 per week of 6 days, working 12 hours per day.

Teachers, per annum, male—principals, $396 to $589; masters, $231.60 to $308.80; female—preceptresses, $308.80 to $386; schoolmistresses, $193 to $270.20; public school superintendent, $579. Having attained the age of 55 years, and having been in service 25 years, the teacher is retired on a pension equal to one-half annual wages.

Warehouse laborers, $23.16 per month, working 12 hours per day.

Waiters (male), $6.76 per month, with board, washing, and lodging, working from 8 a. m. until midnight.

Waterworks employés—fountain men, $347.40 per year, working 10 hours per day, and after 25 years' service pensioned on half pay.

Plumbers, $1.35 per day, working 10 hours; apprentices, 87 cents per day, working 10 hours.

FAMILY SUPPLIES IN HAVRE.

[Inclosure 2 in Consul Williams's report.]

Table showing the cost of supplies in Havre.

Articles.	Prices.	Articles.	Prices.
Apples (evaporated):		Tea—Continued.	
For cooking............per pound..	$0.21	Black—Continued.	
Skins and cores for cider.....do...	.07	Cheapest..........per pound..	$0.54
Beans (white pea)...........per bushel.	2.40	Japan—	
Butter:		Best..........................do...	.54
Prime ....per pound..	.36	Cheapest....................do...	.48
Common..........................do...	.27	Turnips........................per bushel..	$0.31 to .35
Bread:		Straw (prime)...................per ton..	18.94
Best................................do...	.04½	Tobacco (smoking and chewing).........................per pound..	*1.13
Cheapest...........................do...	.04	Wood (fuel):	
Carrots..........................per bushel..	.23	Elm..........................per cord..	18.00
Cheese..........................per pound..	$0.17½ to .25	Beech.............................do...	14.40
Coffee:		Beef:	
Java—		Steak—	
Raw..........................do...	.38½	Fillet...............per pound..	.44
Roasted ....do...	.50	Sirloin.......................do...	.34
Rio—		Entire side—	
Raw..........................do...	.34½	Without leg bones......do...	.26
Roasted ....do...	.42	With leg bones ....do...	.20
Eggs.............................per dozen..	.14	Kidney...........................do...	.28
Flour (prime).................per pound..	.05½	Liver.............................do...	.14
Do.........................per barrel..	10.78	Heart.............................do...	.10
Lard............................per pound..	.11	Head (entire)..................do...	.06
Milk..............................per quart..	.04	Pork:	
Molasses........................per gallon..	.58	Steak..............................do...	.18
Onions..........................per bushel..	.65	Ham (entire).....................do...	.18
Peas (split)...............................do...	3.52	Shoulder (entire)...............do...	.14
Potatoes....................................do...	.68 to .88	Loin...............................do...	.14
Prunes (dried)................per pound	.12 to .16	Side...............................do...	.13
Raisins....................................do...	.17½ to .21	Hog (entire), dressed........do...	.13
Rice:		Ham (entire), cured.........do...	.30½
Indo-Chinese....................do ..	.03½ to .04¾	Mutton:	
Carolina..........................do...	.08¾ to .10½	Cutlet—	
Salt:		Trimmed...................do...	.30
Fine................................do...	.02¾	Not trimmed..............do...	.28
Do....................per barrel	7.70	Ham—	
Coarse ....per pound..	.01¾	Without leg bone........do...	.27
Do....................per barrel..	4.90	With leg bone............do..	.25
Sugar (white coffee)........per pound..	.11	Liver.............................do...	.14
Tea:		Head (entire)..................each..	.12
Black—		Feet..............................do...	.03
Best..........................do...	.65		

* A Government monopoly, with but one price for all grades.

Table showing the cost of supplies in Havre—Continued.

Articles.	Prices.	Articles.	Prices.
Veal:		Horse meat—Continued.	
Breast (without bone) per pound..	$0.34	Carcass (entire)......per pound..	$0.05½
Steak..............................do...	.25	Coal:	
Cutlet..............................do...	.25	Hard native..................per ton..	7.80
Liver.. ....do...	.30	Soft native..........................do...	7.60
Head (entire).....................each..	.50	Cardiff...................................do...	8.00
Feet..................................do...	.08	Charcoal..................................do...	28.00
Fish:*		Corn...........................per bushel..	.95
Cod (salt).................per pound..	.10½	Hay....................................per ton..	$14.50 to 28.00
Salmon (fresh)...................do...	.70	Oats...........................per bushel..	.70
Horse meat: †		Petroleum (refined).......per gallon..	.36½
Steak..................................do...	.15½		

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* Other fish sold by lot, dozen, etc.

† After steaks are removed the better parts are made into sausage. Sausages are made, also, from the flesh of donkeys. The steaks and sausages are sold for human consumption; the coarser parts are nearly all sold as food for cats, dogs, and fowls.

The prices above given are, as will be observed, semiwholesale; they are still higher than above quoted when meat is sold in smaller quantities.

THE ELECTRO-TECHNICAL EXHIBITION AT FRANKFORT.

REPORT BY CONSUL-GENERAL MASON.

The International Electro-Technical Exhibition at Frankfort was formally opened on Saturday, May 16, in the presence of the Empress, Finance Minister Miguel, the president of the province of Hesse-Nassau, and a distinguished assemblage.

For various reasons, the exhibition, notwithstanding the utmost efforts of the management and exhibitors, is still in a very incomplete condition, so that the most that can be attempted in this preliminary report will be to indicate what this important and interesting exposition promises to be when the work of preparation and installation shall be complete. It will be remembered that the date originally fixed for the opening of this display was June, 1890, but, as that time approached, it was found that many of the principal exhibitors would be unable to complete their exhibits in season, and by general consent the exhibition was postponed a year. The erection of the necessary buildings was begun in December last, and was greatly retarded by the long, severe winter, which froze the ground to the depth of 1 metre and made the necessary excavations slow and difficult, and by a hurricane which one night in January blew down the framework of the main machinery hall and caused a long and vexatious delay.

The entire exhibition, with its restaurants, refreshment halls, and all other adjuncts, is lodged in new buildings, constructed specially for their present purposes, upon rough, broken ground, which had been previously occupied by railway tracks, and required elaborate and expensive preparation. But, notwithstanding all difficulties and delays, the buildings were practically ready by May 1 for the reception of exhibits. The fine and extensive display of the imperial post, telegraph, and railway departments, as well as the general telephonic, telegraphic, and telegraphic-supply exhibits, were about the only features that were really complete and ready for the opening. The section most unprepared is the machinery hall, where long rows of ponderous motors and dynamos are being placed into position and put in working order. Of the fifty or more of these machines which are to be exhibited only four or five were in motion on Saturday, so that the exhibition has thus far lost much of its natural brilliancy for want of electricity. These defects are, however, only incidental and temporary. Within a fortnight the exhibition will be in a condition to justify the highest anticipations of its projectors. It will be, beyond all comparison, the most extensive and complete display of its kind that has yet been made in any country. The electrical exhibition of 1882 at Munich employed motors of 160 aggregate horse-power; the Vienna Exhibition of 1883 rose to 1,200 horse-power; at the Paris International Exhibition of 1889 electricity was an important and interesting feature of the large group of industries and applied sciences which were assembled in the vast department of machinery. But the Frankfort Exhibition of 1891 has assembled motors aggregating 4,684 horse-power, and it will demonstate the marvelous march of electrical science by showing what has been achieved during the 2 busy years since the previously unrivaled exhibition at Paris was closed. It opens at a time when the commercial value of electricity for a vast range of scientific and industrial purposes is fully recognized, and it will be among its most important functions to demonstrate the comparative merits of the different motors, dynamos, currents, and lighting systems which now compete for public preference.

The exposition plant comprises nine principal buildings, each of which is devoted to a definite class or department of exhibits, besides numerous smaller constructions, which have been erected by individual exhibitors for special displays. The nine general departments are as follows: (1) The main machinery building for steam and gas engines, dynamos, etc., with annex for steam generators; (2) department of medicine and surgery; (3) telegraphy and telephony; (4) electro-chemistry; (5) railway appliances; (6) electro-galvanism and metallurgy; (7) electric installations and distribution systems; (8) marine station and lighthouse; (9) electrical navigation. Besides these, there is an extensive series of workshops, equipped with electrical appliances for all classes of mechanical work, and an underground department, where will be exhibited various electrical machinery for mining and quarrying. Finally, there is a completely equipped theater, capable of seating several hundred persons, where ballet and other performances will be given each afternoon and evening, with the especial purpose of showing what can be done with electricity in producing dramatic and spectacular effects. The North German Lloyd Steamship Company has on exhibition a large and admirably executed panorama, showing a magnificent view of the harbor and city of New York as seen from the deck of an incoming steamer of that line, and the Hamburg-American Steamship Company exhibits a captive balloon, bearing aloft in gigantic letters the legend of its fastest steamer's quickest run from Hamburg to New York.

The exhibition has brought into friendly rivalry four hundred and ninety-three exhibitors, many of whom are great manufacturing firms or corporations like Siemens & Halske, of Berlin, or the Thomson-Houston International Company, of Boston, each of which has numerous exhibits in several different departments. The first hundred competitors on the list are in the department of technical drawings, which will be ready for opening on the 1st of June; the remaining three hundred and ninety-three are divided among the various departments already designated. Many of the leading manufacturers have exhibits ranging in number from ten to a hundred or more, distributed under their respective classes in several different departments. Naturally a large majority of the exhibitors are of German nationality, and the range and quality of their products in this field of manufacture will be a revelation to those who remember the exhibitions at Munich and Vienna and the meager show that the Fatherland made at Paris in 1889.

Next in order of numbers comes Austria, then Great Britain, the United States, Switzerland, Italy, Russia, and France, the three latter countries being rather slenderly represented.

THE AMERICAN DISPLAY.

The American display is, perhaps, less extensive and varied than might have been expected from a people so prominent as ours in all that pertains to electro-technology, but it has this distinct and important characteristic—it all means something. Nearly everything of American origin at this exhibition is unique, and represents a new idea. There is no piling up of goods simply to make a show of quantity or elegance of finish; each exhibit is original and different from everything else at the exhibition. There are, of course, numerous small articles and materials of American origin which are exhibited by German agents and importers under their own names, and can not readily be distinguished from similar products of local manufacture. The distinctively American exhibitors and the articles which they present are as follows: Otis Bros., New York, Otis electric elevator; Babcock & Wilcox Company, New York, tubular safety boiler; American Link Belt Company, New York, link belting; Edison United Phonograph Company, Edison's phonographs, worked by battery, accumulator, and machine currents; Weston Electrical Instrument Company, Newark, N. J., measuring instruments; Singer Sewing Machine Company, sewing machines, with electric motors; and the Thomson-Houston International Electric Company, with nine exhibits in four departments. These include principally an electric power generator, an arc-light machine, two electric drilling machines for mines, a dynamo motor of 50 horse-power, a force pump, an electro-magnet of 2,000 pounds lifting power, and an electric windlass for drawing cars up an inclined plane from a mine. Other transatlantic features are a special pavilion for the sale of California wines and the inevitable "American bar," which has figured more or less prominently at the European exhibitions during the past 20 years. Ocean telegraphy is represented chiefly by the Eastern Telegraph Company, of London, with an interesting display of cables and instruments, which illustrate very perfectly the progress that has been made in cable laying and working since the first wire was laid across the Atlantic. This, so far as can be seen, is the only exhibit in that department which is of a historical character, and it is to be regretted that some leading American company like the Western Union could not have shown a series of instruments from the time of Morse to that of Edison which would illustrate what American inventors have contributed to the development of practical telegraphy. As it is, the one thoroughly popular feature from our country is the phonograph, which, however, easily holds the first place as an object of general amusement and interest.

Very few, comparatively, of the visitors who throng such an Exhibition know or care much about volts, ampères, or the comparative merits of arc and incandescent lights, but everyone understands and enjoys the marvelous witchery of the phonograph and the long-distance telephone. Special rooms are fitted up with telephonic communication with the opera houses at Munich and with the Kursaal at Wiesbaden, so that the daily performances at those places are enjoyed by wondering audiences at the Frankfort Exhibition.

It has been stated in previous reports on the present topic that this exposition of 1891 is expected to furnish some definite conclusions upon two points of extraordinary practical interest, viz, the comparative merits of all the known methods of electric propulsion for railway cars, with the storage system, upon which the use of electric power for marine purposes mainly depends, and, finally, the problem of long-distance transmission of electric energy. The first comprises the whole subject of production, storage, and distribution of electric energy—in short, a comparison of the several competing systems, which will here be brought into open rivalry under the eyes of an international jury of the highest authority and competence. There are hundreds of municipalities, street railway companies, and manufacturing firms in Germany which are on the point of adopting electricity for motive or illuminating purposes and are waiting for the result of this competition before deciding where to place their contracts. The verdict of this trial will make the fortunes of the successful contestants.

The feasibility of long-distance transmission will be demonstrated, unless all anticipations fail, by the working of a powerful current generated by water-power at Lauffen, on the River Neckar, and conveyed to the exposition, a distance of something more than 100 miles. The plant for this important undertaking is now in process of construction. The problem is mainly one of insulation—whether a current of such intensity can be conveyed so great a distance without being fatally dissipated and weakened by loss through imperfect insulation. There is, however, a very general feeling of confidence that the experiment will succeed, and it is expected that the German Emperor, who has shown such generous sympathy with all the purposes of this exhibition, will be present on the 15th of August to set this new wonder in motion.

When it is considered what the success of this venture will mean—the harnessing of the now wasted water power of all civilized countries to the every-day work of life and the immense saving of money, fuel, and labor that would thereby be rendered possible—it is not too much to hope, if not expect, that the exposition which has just been opened in this bright, enterprising German city will leave an important mark upon the industrial progress of our time.

FRANK H. MASON,
Consul.

UNITED STATES CONSULATE,
Frankfort, May 19, 1891.

SWISS FACTORY OPERATIVES.

REPORT BY CONSUL CATLIN, OF ZURICH.

It appears from the annual report of the federal department of industry and agriculture for the year 1890, just published, that on the 31st of December last there were in operation in Switzerland, under the provisions of the law pertaining to factories, 4,223 establishments with 88,000 horse-power, employing 170,000 operatives. The cantons principally concerned show the following number of establishments and operatives respectively, viz:

Cantons.	Operatives.	Establishments.
	Number.	*Number.*
Zurich	37,809	712
St. Gall	20,770	853
Bern	17,271	387
Aargau	16,628	338
Basel	11,399	180
Soleure	9,598	109
Thurgau	9,329	363
Glarus	8,637	104
Vaud	6,424	193
Others	32,135	984
Total	170,000	4,223

Zurich, it will thus be seen, contains within its limits 22.3 per cent. of all the factory operatives in Switzerland and nearly double the number of those employed in St. Gall, the next on the list.

During the year no less than 3,866 official visits of inspection were made by factory inspectors.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Zurich, May 9, 1891.

SEA FISHERIES OF GREAT BRITAIN.

REPORT BY CONSUL BRUCE, OF LEITH.

The following statistics of the sea fisheries of the United Kingdom for the year 1890, with comparison of the figures for the 5 previous years, have been issued in a Parliamentary paper. Attached to the tables, which include the returns of the quantity of fish conveyed inland from each of the principal ports during the years 1885–'90, inclusive, is a memorandum summarizing the results. It says the broad fact brought out by the primary return as to fish landed on the coasts of England and Wales, with which the board of trade has to deal, is that the quantity so landed last year, exclusive of shellfish, amounted to 6,100,000 cwts., or, say, 305,000 tons, of the value of £4,369,000, which, with the addition of the shellfish, having a value of £374,000, makes a total of £4,743,000. These figures show a considerable increase in the values over previous years, the values in 1888 and 1889, respectively, having been £4,213,000 and £4,169,000. There are also some changes in the places where the fish have been landed and in the importance of the several kinds of fish, which will afterwards be noticed. The corresponding figures for Scotland show a total quantity of 5,362,000 cwts. landed, exclusive of shellfish, valued at £1,560,000, and the total value, including shellfish, £1,627,000. The corresponding figures for Ireland show a total of 799,000 cwts. landed, exclusive of shellfish, valued at £363,000, the value, including shellfish, being £374,000. In the case of Scotland the total values show an increase over the previous years, as they do in England and Wales, although in both cases there is a decrease in the quantity landed. In the case of Ireland there is also a considerable increase in value, viz, from £334,000 in 1889 to £374,000 in 1890, and here also we have to observe the same proportional decrease in the quantities landed. The aggregate result for the United Kingdom is a total of 12,261,000 cwts. landed, exclusive of shellfish, or, say, 613,000 tons, valued at £6,291,000 at the point of landing. Adding to this the value of shellfish, amounting to £453,000, we arrive at the sum of £6,744,000, or, in round figures, £6,750,000, as the return of the sea fisheries of the United Kingdom, as valued at the place of landing, in the year 1890. Making an addition for the annual values of Scottish and Irish salmon, according to the returns of 1889, which are the latest available, the above totals should be increased by £222,000 for Scotland and £399,000 for Ireland, and a smaller, though still considerable, addition would have to be made for England, bringing up the total annual return of the sea fisheries of the United Kingdom, with the addition of the salmon fisheries, which are in a special category, to over £7,000,000.

WALLACE BRUCE,
Consul.

UNITED STATES CONSULATE,
Leith, April 24, 1891.

BERLIN POOR COMMISSION.

REPORT BY CONSUL-GENERAL EDWARDS.

The following institutions are at present under the control of the Berlin municipal commissioners of the poor: (1) The hospital at Friedrichshain, (2) the Moabite Hospital, (3) the infirmary on the Prenslauer Allee, (4) the Frederick William Hospital, (5) the new hospital in Danziger street, (6) the insane asylum and the home for epileptics in Dalldorf, (7) the orphan asylum in Rummelsburg and the orphan depot in Old Jacob street, (8) the workhouse and workhouse hospital in Rummelsburg, (9) the municipal asylum for the homeless in Danziger street, and (10) the reform school for children in Rummelsburg.

These institutions are severally managed by directors or inspectors, under the supervision of mixed deputations. For institutions 1, 2, and 6 the deputations are called *Curatoria*, and are comprised of members of the public sanitary commission; for 3, 4, and 5, the *Curatoria* are elected by the magistracy and city council; 7 and 10 are under the supervision of the orphan department of the poor commission; 8 and 9 are under the direct supervision of the workhouse commissioners.

The following table shows the expenses incurred in the maintenance of these institutions:

Year.	Population.	Expenses.		
		Maintenance of poor institutions.	For the assistance of the poor outside of institutions.	Total.
		Marks.	*Marks.*	*Marks.*
1882–'83	1,162,857	4,092,711.72	3,231,960.52	7,234,672.24
1883–'84	1,197,299	4,310,797.75	3,362,203.24	7,673,000.99
1884–'85	1,233,823	4,539,923.74	3,432,436.41	7,972,360.15
1885–'86	1,284,334	4,520,931.75	3,587,679.69	8,108,611.44
1886–'87	1,327,162	4,794,524.57	3,728,458,25	8,522,982.82
1887–'88	1,399,755	4,939,696.78	3,855,790.73	8,795,487.51
1888–'89	1,453,693	5,162,818.44	4,014,801.09	9,176,619.53

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, May 4, 1891.

MANUFACTURE OF CONGLOMERATE FUEL IN FRANCE.

REPORT BY CONSUL WILLIAMS, OF ROUEN.

INTRODUCTORY.

The mechanical preparation of fuel has proved an important factor in the development of the coal industry of France.

In 1820 the production was 1,000,000 tons, which increased to 24,000,000 in 1889. The French coal is inferior in quality to the English, being less pure and more friable, and, therefore, the profitable use of the fine refuse coal has always been an object of great importance in the working of the coal mines.

During the first part of the century the fine refuse coal, especially that which was less inflammable, was not used, but was left at the bottom of the mine. Creusot used the fine anthracite for ballast on a railroad that he was constructing; the same use was made of it in England, but the English mines furnished a greater proportion of large pieces, for which they obtained a fair price, and the use of very small coal was but an accessory. In 1842 Marsais invented and set up the first machine to conglomerate, which worked in a satisfactory manner. With this machine they could utilize all the fine coal and dust, making a fuel of first quality, particularly advantageous for use on vessels and railroads. Different sorts of machines were invented, and everywhere manufactories for the making of "briquettes" were established near the coal mines.

The question was raised if it was any real advantage to thus utilize the refuse, or if it could be burnt as profitably in its natural state without increasing the net cost 5 to 8 francs per ton. One advantage claimed for the briquettes is that they do not deteriorate like the dust when piled up, the handling and storage of them is much easier, and they take up at least 10 per cent. less space. It is quite certain that for the use of steamboats the briquettes are by far the best fuel yet discovered; they burn more freely, can be handled by an ordinary stoker, and they give most excellent results, whereas the dust alone was almost worthless. They will always be popular for small industries and for domestic use. In the large industries, notably the railroads, this use of the refuse fine coal and dust has, for the last 12 years, been almost universal in France.

CONGLOMERATE FUEL.

The first experiment tried in the making of conglomerate fuel was by Baroulier, who tried grinding the fine coal and forming a compact paste without using any cement; it was a failure. Many other ways were tried, but proved unsuccessful. Common black pitch proved to be the only conglomerant practicable for universal use. It has the greatest adhesive power, is in itself heat-producing and burns well, lessens the amount of ashes, permits of checking the yield of volatile substances in poor coal, makes it a fuel burning well, and conglomerates when burning with the coal, while without the pitch it would turn to ashes when heated and be of no use.

Pitch is the residuum of the distillation of coal tar. For the manufacture of briquettes it must have the following qualities to render it suitable:

It should be hard enough, at an ordinary temperature, to be transported in bulk. In breaking it should present a black and glossy surface, not greasy or stickey to the touch, and should have a strong odor of coal tar. Thrown into water at 75° C., it should admit of being drawn out in long, fine threads without breaking. If it does not give longer threads than 30 to 50 centimetres, it is of inferior quality. In calcination it should give from 45 to 52 per cent. of swollen coke and very hard; incineration should yield one-half of 1 per cent. of ashes. It should be the result of distillation of coal tar, and must be free from any residuum of the rectification of petroleum or mineral oil.

The most exact, as well as the most simple, system of testing the quality of pitch is to put a small piece in the mouth; if too dry, it pulverizes when bitten, while the good softens and becomes easy to work. At Port-du-Buc they test the quality of the pitch by grinding a small quantity and putting it in a crucible heated in a water bath over a spirit lamp. They test the fusion by sounding with an iron needle. At 40° C. it softens, at 60° it is soft enough to thrust an iron needle into it, at 70° it can be drawn into short threads, at 75° the threads should be half a yard long, at 80° to 85° they should be more than a yard long, and at 90° the fusion is finished.

The quality of the pitch depends upon the use to which it is to be applied, the pressing machines, the heating apparatus, and the kind of coal used. The testing should, when possible, be made by the same person and one having a practical knowledge of the work.

PRICE OF PITCH.

The price of pitch follows the price of coal. England supplies a large quantity to France. When the demand for fuel is brisk the manufacture of conglomerate fuel increases, and the price of pitch is raised. It is also influenced by freight. It is really the price of English pitch in France that regulates the market.

Table showing the cost of coal and pitch per ton.

Year.	Coal.	Pitch.
	Francs	*Francs.*
1873	18.09	54.00
1874	18.78	51.00
1875	18.87	50.00
1876	17.00	55.00
1877	14.00	59.50
1878	13.14	57.00
1879	12.65	53.00
1880	11.88	44.00
1881	11.77	42.00
1882	11.86	51.00
1883	12.00	53.00
1884	11.57	56.00
1885	10.39	48.00
1886	10.00	39.00
1887	9.60	34.00
1888	9.30	38.00

PITCH COAL.

Cohesion.—The machinery for measuring the cohesion is a sheet-iron cylinder, with three diametrical partitions. It has a door made to turn on itself, or by means of a crank, for the admission of the materials. For testing, they put in 50 kilogrammes of briquettes in blocks of 500 grammes each. The cylinder is then closed and made to revolve for 2 minutes with a uniform movement of twenty-five turns per minute, after which the blocks are removed from the cylinder and shaken on an iron plate perforated with square holes of 3 centimetres aslant. The difference in the weight of the blocks before and after the firing gives the amount of cohesion. This machine was adopted by the French navy, which exacts a cohesion of 52 per cent.; it also requires that the briquettes shall not soften at a temperature of 60° C. The briquettes for the use of torpedo boats should have a cohesion of 58 per cent. In the trials made by this machine it is necessary that the rotation should be uniform, for the same number of revolutions (fifty) made in different lengths of time do not give the same result; for instance, briquettes having a cohesion of 56 per cent. with a normal revolution have but 40 per cent. if the fifty revolutions are made in 3 minutes instead of 2, and 86 per cent. if they are made in 70 seconds.

The cohesion of the briquettes depends on the different elements of which they are composed. The quality of the pitch is of the utmost importance; the other conditions being equal, the cohesion diminishes one-half with poor pitch. The use of liquid pitch has the advantage of giving perfect control of the quality of the pitch and of always giving the same results. The solidity of the briquette increases with the proportion of pitch used. There is usually a proportion of pitch for which the solidity is maximum; but it is not necessary to go as far as that, for the proportion depends on the use for which the fuel is intended.

APPARATUS.

A factory for the conglomeration of coal dust requires (1) steam generators, (2) an engine, (3) a crusher for coal (in some cases useless) or a dry steam apparatus, (4) a crusher of pitch or large kettles for melting pitch, (5) a meter for pitch and coal to determine the proportions, (6) machines for mixing and heating, (7) the press for conglomerating, and (8) an endless canvas for cooling, moving, and changing the briquettes.

Steam generator.—Any style can be used. When a washhouse is close by a factory for conglomeration, the residuum from the washings, as slime, schists, etc., can be utilized for fuel.

Allowance must usually be made for a heating surface of 15 square metres for the manufacture of a ton of briquettes per hour. The amount of fuel depends upon the perfection of the machine and whether the heating is done by a furnace or by utilizing the steam from the generators. It is by this last means that the maximum is obtained. The heating surface amounts to 25 square metres at the factory of St. Waast, with the Bietrix presses and pug mill, the steam for which comes directly from the boilers. The consumption of fuel per ton of conglomerates is generally from 50 to 60 kilogrammes, and it sometimes runs as low as 20 kilogrammes.

The engine.—Any ordinary engine can be used, but it must have a regulator, worked by a belt, to prevent ruptures in case of any solid body entering into the presses or pug mills. The motive power varies with the different systems adopted, and may be rated at from 4 to 8 horse-power for the manufacture of 1 ton per hour.

Crushing and drying machines.—When furnaces are used for heating the paste, the drying is done at the same time. The presence of water diminishes the production of the furnace, and allowance must be made for it to obtain a given result. When not wishing to use the furnace and there is an excess of water, it becomes necessary to use a particular machine, and one of the best is the hydro-extractor of Hanrez. It requires 6 horse-power, makes from 300 to 350 revolutions per minute, and can turn out 50 tons every 12 hours.

At Lagnieres, with an oven of 1.50 by 7 metres, costing 7,000 francs, the following results were obtained: In 10 hours the furnace treated 60 tons of washed coal, which, when placed in the oven, contained 6.5 per cent. of humidity in winter and 5.6 per cent. in summer. When taken out it had lost 3 per cent. of water. The amount of fuel used was 1,000 kilogrammes, 1.65 per cent. of the weight of the briquettes. When taken from the furnace the coal still held 3.5 per cent. of water. This proportion was reduced to 1.7 or 1.8 per cent. by passing it through two pug mills successively. These pug mills are in an atmosphere of steam and receive injections of steam heated to 300° C. The steam is superheated in a serpentine tube with 14 square metres of heating surface. The furnace consumes 500 kilogrammes per day, or 0.83 per cent. of the production. Between the pug mills is placed a horizontal arrangement for moving the paste, which must assist in drying it. This machine works on dry pitch, which is added to the coal when it comes out of the furnace and before it enters the pug mill.

GRINDING COAL.

To obtain good cohesion, the coal must have pitch in proportion to its fineness. With very fine coal and a good deal of pitch the conglomerate is very firm; but the coal can be too fine for working profitably. About 20 per cent. of pitch is required to conglomerate the slime from washings.

The machine used for grinding in the factory at St. Waast is 1.20 metres in diameter and 0.38 metre in width. It makes 300 turns per minute. Each machine requires 25 horse-power and treats 15 tons per hour.

TEMPERATURE OF THE PASTE.

If the paste is not sufficiently heated the pitch does not thoroughly mix, and there is no cohesion. The heat should be sufficient for the fusion of the pitch throughout the mass. A certain amount of water facilitates the heating, as coal is a bad conductor. But at the moment of pressure, or when removing from the molds, it requires less heat, or the cohesion of the briquette will be weak and it will break readily. When each grain is enveloped in pitch, it is unnecessary to maintain the temperature of fusion, that of the condition of paste being enough. The temperature of the paste in the molds should be 80° to 85°, and never as high as 90°, but it can descend to 70°.

AGGLOMERATION PRESSES.

In 1861 the machine of Everad for the agglomeration of coal dust was brought into use. In 1862 it was improved, and in 1864 it was adapted to the manufacture of what is termed *charbon de Paris* (Parisian charcoal), manufactured from coke at nearly all of the gas works in France, and is by no means a bad substitute for that article for fires and cooking in summer.

Then followed, in 1873, the system of Girard. A machine for making briquettes was invented by Durand and Marais in 1880 and improved in 1882. In 1884 the double-pressure system of Conffinhal was invented.

After carefully examining all of these systems, I find that they have much merit, and are profitably employed in manufacturing in mines and centers from which briquettes can be distributed. They deserve the attention and study of any person desirous of undertaking the manufacture of briquettes.

The Paris, Lyons, and Mediterranean Railroad Company exhibited at the late exposition at Paris a machine for agglomeration of a new type, invented by A. Henry, chief engineer of construction. This machine, adapted to manufacture large and small briquettes, offers the advantage of the greatest cohesion with the least proportion of agglomerating material.

GENERAL CONSIDERATIONS.

To manufacture conglomerated fuel of great tenacity while using a small proportion of cohesive material, excessive pressure is indispensable. This can not be effected with bottomless cylindrical or prismatical molds, in which the pressure is obtained by the friction of the paste in the mold, because, as soon as the mixture becomes too dry, the friction becomes such that the machine stops or breaks.

Recourse, then, must be made to closed molds. Until now these have been but little used for the manufacture of large cake fuel, which must be broken before being put on the fire. This was a great task when it was required to feed the furnaces of a locomotive, besides making a considerable proportion of dust. To make small briquettes ready for use for domestic purposes, locomotives, etc., without breaking, the large, closed molds have been partitioned off so as to make a certain number of small briquettes in place of a large one; but the capacity of production has been thus reduced, and the weight has been brought down to about 600 grammes, whereas it is necessary to feed locomotives with those of 250 to 300 grammes, and, in many instances, even less. Another disadvantage arising from the small molds replacing the large ones was that they could not be filled at the same time; the compressing pistons having all the same direction, the small cakes made in this way were not uniformly cohesive, and sometimes not at all so. Henry studied to avoid these faults and to produce, with mixtures dry and poor in cohesive properties, briquettes as light as 200 grammes, having a strong and regular cohesiveness and turning out a considerable quantity relatively to the weight of the machine.

DRYING AND STORAGE OF BRIQUETTES.

Briquettes are sometimes loaded upon wagons as soon as they leave the press, and are sometimes placed upon an elevated platform; in the latter case the breakage is considerable, because they come warm from the molds and are only partially solid. They attain their normal cohesion after cooling and losing by evaporation their excess of water. The danger of breakage is diminished by cooling the cakes before handling; for this purpose they are placed on an endless apron, moving slowly, of sufficient length to affect their temperature, which carries them to an inclined plane, over which they slide to the workmen, who carry them away. These aprons are of aloe wood 20 millimetres in thickness; their speed, 15 to 20 centimetres per second.

COAL FOR CONGLOMERATION.

All kinds of coal can be conglomerated; that containing 13 to 17 per cent. of volatile matter is preferable.

Certain of the coals of the Franco-Belgian basin containing only 12 to 14 per cent. of volatile matter make good briquettes by using 9 to 10 per cent. of pitch. When the coal contains but 9 to 10 per cent. of volatile matter, the briquettes burn slowly and with difficulty. The cohesion, when cold, is as great as with any other coal; but in the fire the fuel does not burn as freely as the briquettes of half-volatile coal. If the proportion of pitch is insufficient, it gives a sort of coke ready to turn into dust.

If a certain amount of caking coal is mixed with the less inflammable coal, a good fuel, strongly cohesive, is obtained, without an excessive use of pitch.

Lignites alone are difficult to conglomerate, but mixed with other combustibles they give good results. At the works of Port-de-Buc the moderately inflammable coal of Gard, the anthracite of Cesson, and the lignite of Fuveau (the latter in the proportion of 10 per cent.) are mixed together. The briquettes have 19 per cent. of volatile matter, 8½ per cent. of pitch, and a cohesion of 60 to 70 per cent.

At Aarau, in Switzerland, turf and anthracite are mixed with tar. The briquettes are 7 centimetres in thickness and 9 centimetres in diameter; weight, 700 grammes. The production is thirty thousand briquettes per day. The pressure used on this mixture in the molds is 30 tons.

HOLLOW BRIQUETTES.

Hollow briquettes are made from the residue of washing.

A company at Blanzy in 1875 put in a small machine to utilize the stone from their washings, which was very impure and argillaceous, containing 35 per cent. of argil and very little sand. The argil serves as a conglomerating material, and admits of the addition of sawdust, producing a fuel which does not burn freely except in special furnaces. After drawing off the slime, 6 to 8 per cent. in weight, equal to about 21 to 27 per cent. in volume, is mixed in a rolling mill with fluted cylinders, and then in a pug mill 90 centimetres in diameter and 30 centimetres in height, below which are two presses. Each press has a horizontal piston moved by a crank of 23 by 19 centimetres, which forces out the paste through a guage plate, which divides it into two hollow rolls. These pistons traverse 35 centimetres and give 10 strokes per minute. The roll is cut by hand into pieces weighing 1½ kilogrammes. Fifteen thousand briquettes are manufactured in 11 hours at a cost of 3.50 to 4 francs per ton. The cost of this machine, without the engine, was 40,000 francs.

AGGLOMERATION OF COKE DUST.

A large proportion of the gas works manufacture briquettes from the coke dust and tar or pitch produced from the coal. These are manufactured on a large scale by some gas companies, notably the Parisian, which makes and consumes in its own furnaces 120 tons per day.

PERFORATED BRIQUETTES.

Perforated briquettes are manufactured extensively at Paris, as well as at Rouen, Calais, and other French cities. They are used for domestic purposes, principally on grate fires. These perforations, usually nine in number, tend to enliven a sluggish fire, acting as so many flues, through which the flame is drawn upwards. Their weight is 1 kilogramme, and the cost to consumers 5 francs per 100. Speaking from experience, within a certain limit there is no more useful, economical, and agreeable fuel for use in some grates. Their consumption is enormous, and is constantly increasing.

COST OF CONGLOMERATE FUEL.

The cost of conglomerate fuel depends upon (1) the coal used; (2) the cost of manufacturing, hand labor, and repairs; and (3) the price of pitch.

The price of coal varies according to where the supply is obtained, the season of the year, and whether the coal is washed or not. Very few of the French mines supply coal that can be used without being washed. The tenure of ashes required by the railroads and navy is 6 to 8 per cent.; for the factories and for domestic use, rarely more than 10 to 12 per cent. It is necessary to wash the fine coal, and that increases the expense, both on account of the waste and the price of labor.

The cost of manufacture also varies, according to the size of the factory and the machinery used. Twenty-five years ago most of the work was done by hand, and the expense was great, but to-day machinery has taken the place of hand labor, and by the use of simple and strong machinery the expense is lessened.

The hand labor costs from 60 centimes to 1,10 francs per ton, and includes the unloading of the coal and loading of the briquettes. The most delicate and the most important machine is the press; it should be strong. A poor one costs more to keep in order, and so does away with the profit.

The cost of manufacture in northern France is as follows:

Table showing the cost of manufacture in a factory using two Bietrix presses and making 250 tons per day, working 24 hours.

Description.	Amount.	Description.	Amount.
Manual labor.	*Francs.*	*Supplies.*	*Francs.*
Superintendence	0.04	Oils and grease	0.09
Truckmen	.03	Sundries	.07
Handling of pitch	.05	Repairs	.10
Handling of coal	.06	Coal for engine and furnace (at 6 francs per ton)	.31
Grinding	.17	Total	.57
Manufacturing	.21	Grand total	*1.37
Loading briquettes	.08		
Sundries	.06		
Stokers	.10		
Total	.80		

* Evidently per ton.

Table showing the cost of manufacture in a factory using four hydraulic Revollier presses, with a revolving plate, producing 60 to 65 tons, using dry pitch, steam heat.

Description.	Amount.	Description.	Amount.
Manual labor.	*Francs.*	*Supplies.*	*Francs.*
Superintendence	0.06	Oils and grease	0.11
Truckmen	.06	Wood and metal	.07
Handling of pitch	.05	Horses for carts	.07
Handling of coal	.11	Sundries	.15
Grinding	.08	Repairs	.40
Manufacturing	.42	Coal for boilers	.35
Loading briquettes	.08	Total	1.15
Stokers	.20	Grand total	*2.21
Total	1.06		

* Evidently per ton.

In 1876 the cost of manufacture at Chasse with the Everad machine was as follows:

	Francs.
Manual labor	0.9584
Men regularly employed	.1032
Cost of repairs	.1286
Total	1.1902

COST OF PITCH.

The principal item in the cost of briquettes is pitch. This varies with the location of the works and the amount used. A large portion of the pitch used in France is brought from England. Works placed on the seashore and favorably situated obtain supplies at a moderate price, often as low as 30 francs per ton.

From the foregoing prices, quoted as the minimum and maximum prices of pitch, the following figures will denote the cost of conglomeration:

For the minimum, taking 6 per cent. of pitch at 30 francs per ton, 1.80 francs; hand and machine labor, 1.50 francs; total, 3.30 francs. This is a theoretical cost price. The works on the seashore generally supply the navy, and use 8 per cent. of pitch to obtain a firmer cohesion. The cost, then, would be 3.90 francs.

For the maximum, taking 9 per cent. of pitch at 70 francs per ton, 6.30 francs; hand and machine labor, 2.50 francs; total, 8.80 francs. This should never be exceeded in any well-regulated works.

COST OF ESTABLISHING WORKS.

The cost of a press with a pug mill varies, according to the type and construction, from 13,000 to 26,000 francs for a machine manufacturing 60 tons per day. The other accessories, such as the engine, foundation, etc., mount up to about 150,000 francs. A machine which turns out 60 tons per day was constructed under a simple shed at Paris for 70,000 francs.

A complete factory often contains wash buddles for cleansing the coal for briquettes. Such is the case in an establishment at the north arranged for manufacturing 220 tons every 24 hours, which contains a double-action Bouriez press, a Corliss engine of 50 horse-power, four improved boilers, and eight washing vats, treating 640 tons of rough dust every 24 hours. One-third of the refuse is in the form of schist, which is thrown out, and of slime burnt in the furnaces; one-third of the product is sold outside, and one-third submitted to the Bouriez press. The total cost of the mill, built in 1881, including iron track, storehouses, stable, smith shop, woodwork, scales, ten horses for employés, hoisting engine, locomotive, and four cars, was 700,000 francs, exclusive of the land.

THE MAZELINE MACHINE.

Fig. 2 (Exhibit A) is a drawing of a double-acting Mazeline machine, with one hopper for distribution. It can turn out 24 tons per hour of briquettes weighing 10 kilogrammes each. The output is twenty briquettes per minute for the single machine and forty for the double.

The machine consists of a revolving frame carrying a certain number of molds of deep, hollow vessels for molding, each one furnished with a plunger placed at the lower part and serving for molding the briquettes and removing them from the molds. Each piston places itself in turn for the pressure upon a lever, which receives direct motion from a steam piston placed above the turning frame, and the connecting rod of which is in the axis of the frame. Steam is introduced under the piston, which has a large diameter and a light length of stroke. The distribution is made by a small slide moved by one of the arbors of the driving gear of the rotatory motion of the frame. The pressure lasts a certain length of time, and when the machine moves slowly the excess of water in the paste can be expelled.

The Belleville springs R R, represented in Fig. 1 (Exhibit A), serve to deaden the shocks. By their use a pressure of 300 kilogrammes per square centimetre of briquette can be obtained, instead of 100 kilogrammes by the old system.

The waste of steam is very great with this machine, and the revolving apparatus requires frequent repairs. The machine is simple in construction and costs comparatively little.

The machine used at Rouen is a single press with 11 molds of feeble pressure, producing about 8 tons per hour of briquettes of 180 by 140 by 250 millimetres, weighing 7 to 8 kilogrammes each. About 8 per cent. of dry pitch is used. The coal dust comes from the Anzin mine in the north of France, and costs 27 francs per ton; pitch costs 54 francs per ton. Fourteen men are employed in each gang for a product of 160 tons in 24 hours.

The cost of manufacture per ton is as follows:

	Francs.
Pitch	4.50
Labor	1.00
Repairs	.20
Sundries	.16
Total	5.86

The cost of the machine was 35,000 francs. The engine, boilers, mixing machines, buildings, all of which are ordinary, cost about 50,000 francs. The coal dust used in these works is not washed.

THE PARIS RAILWAY COMPANY'S MACHINE.

This machine was made by the Paris, Lyons, and Mediterranean Railway Company for making coal bricks (briquettes) for fuel of 250 grammes weight each. The complete machine is composed of a number of similar machines, or elements, placed side by side, and each element has two molds for making the briquettes.

Figs. 1 and 3 (Exhibit B) are an elevation and plan of a machine composed of two elements and four molds.

In Fig. 1 the two molds A A are shown in sections, and they, it will be seen, consist of a cast-iron cylinder open at both ends, and at its center there is a vertical funnel-shaped hopper, through which the coal mixture is fed into the mold. Into one end of the mold the compressing plunger C, driven by the eccentric D, works; the other end is alternately closed and opened by a plug E. This plug E is worked by the cam F, of such a form that the mold remains closed during the compression of the mixture, and it is then suddenly opened, and the compressing plunger, continuing its movement onward, pushes out the finished briquette. The two outer shafts carry the two eccentrics and the inner middle shaft the cam. The three shafts work at equal speed and together, being driven by the three large spur wheels H, G, and N. These spur wheels are driven by a shaft K and pulley J (Fig. 2). On the shaft K there is a fly wheel M.

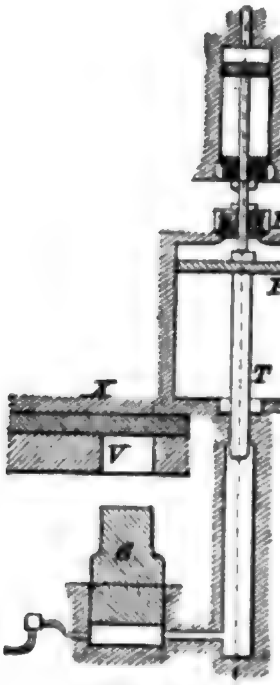

Fig. 1.

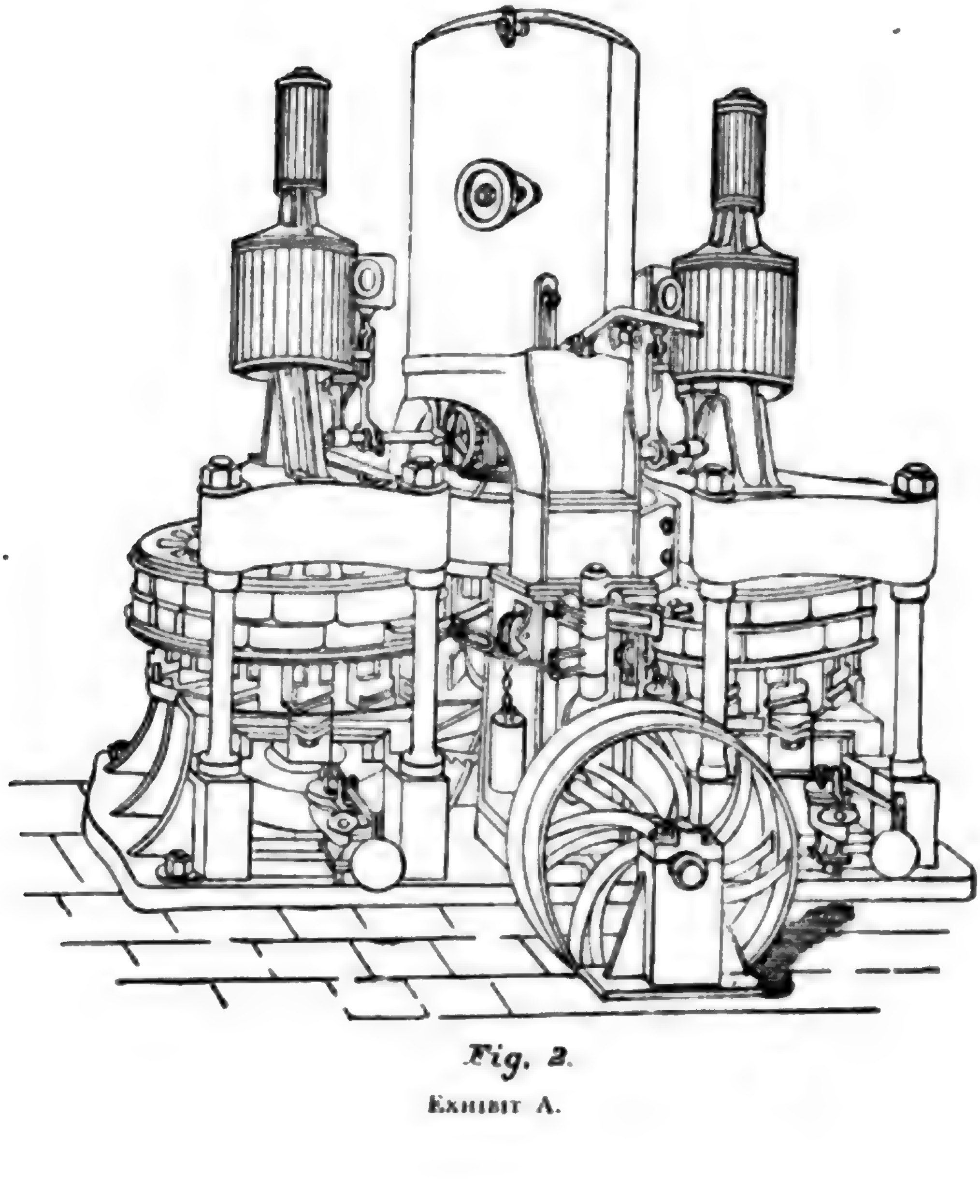

Fig. 2.

Exhibit A.

The cam F, on the inside shaft, serves for both the molds to the right and left of it. In the position shown by Fig. 1 the mold A, on the left hand side, has been filled with the coal mixture, and the compression plunger, moving onwards, will first close the feeding hopper and then compress the mixture against the plug E. In Fig. 4 the compression is finished and the briquette formed. In Fig. 5 the plug E has been withdrawn by the cam and the compression plunger has pushed the briquette out.

From the position shown in Fig. 5 to the position shown in Fig. 1 the machinery must make a half revolution, during which time the plug E returns and closes the mold, and the compressing plunger returns to the position uncovering the feed hopper, permitting a fresh charge of mixture to enter the mold. During this return movement, while the mold on the left is getting filled, the mold to the right has made a briquette, and so, in each alternate half revolution, one mold is being charged while the other is being compressed. These two molds form an element of the machine, and it is clear that several elements can be placed side by side. The machine illustrated has two elements. The eccentrics, in the case of a machine of several elements, would be fixed on the shafts to divide, as much as possible, the resistance, and so prevent the shafts having to compress several briquettes at the same time. The plate is very complete, and gives the more important details on a larger scale with full dimensions in millimetres.

The machine is made to compress the briquettes to 300 kilogrammes per square centimetre (4,200 pounds per square inch), and this pressure is assured by the following simple contrivance: It will be noticed in Fig. 4 that plug E fits into a hole bored into the stem S. Between the end of the stem S and a collar on the plug E there are shown six steel disked washers (Belleville springs) that are calculated and proved to give way or compress only when the pressure of 4,200 pounds per square inch is attained, and it is so arranged that the pressure exerted compresses the springs each time.

The length of the finished coal briquette of 250 grammes weight is 50 millimetres (1.96 inches), but the space left is only 40 millimetres (1.57 inches), and so at each operation the springs have to give way to make the difference between 1.96 and 1.57 inches (0.39 inch) before the plug E is removed by the cam; and, therefore, the briquettes are subjected at each operation during the compression of the springs to the pressure of 4,200 pounds per square inch.

The amount of coal mixture fed into the hopper and mold at each operation is regulated by the slide shown on a larger scale in Figs. 6–9. The slide O (Fig. 1) is connected to the eccentric frame and works in unison with the compression piston. Each time the space O (Figs. 6–9) comes under the upper hopper P it is filled with the coal mixture contained in P, and when O comes over the feed hopper B it empties itself into B and the mold A. The amount fed at each operation depends on the volume of the space O, and this space can be varied by the screw R, shown in Figs. 7, 8, and 9. The amount of mixture necessary at each charge varies with the amount of pitch used, the amount of humidity, and with the pressure neces-

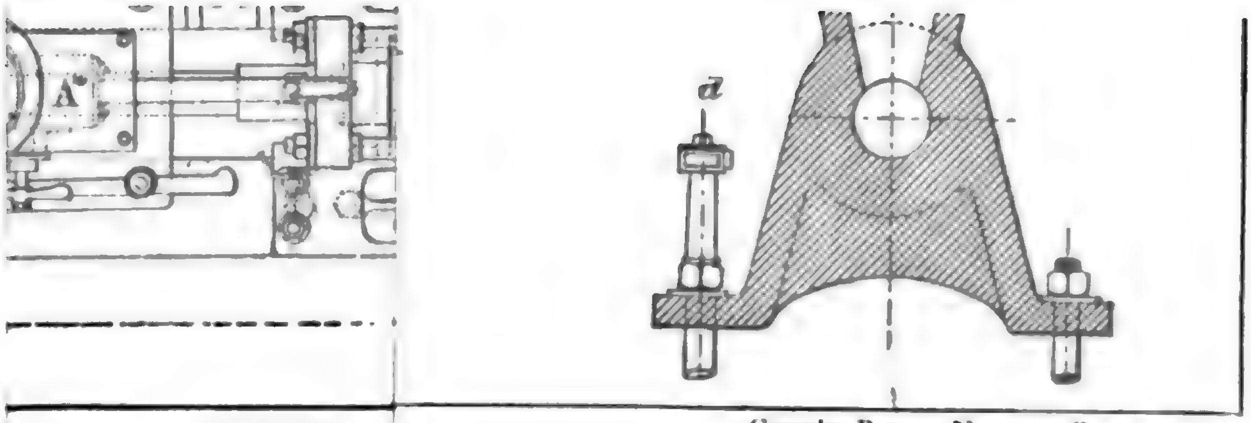

Exhibit B.

Consular Reports No. 130.—Op. p. 460.

sary to compress the Belleville springs. In Figs. 6–9 a small screw *a b* is shown; the head of the compression plunger strikes *b* each time it arrives at the end of its stroke and shoves it outwards, and, as it turns round the vertical spindle *d*, the outer end *a*, with its finger inwards, strikes the briquette and so detaches it from the end of the compressing plunger, to which it sticks. The small spring brings the lever *a b* back to its normal position when released from the plunger head.

The wooden frame is strengthened, as shown in Fig. 2, by strong channel irons 175 by 60 by 8 millimetres (6.9 by 2.35 by 0.315 inches). The shafts, cams, eccentrics, and roller wheels are of wrought-iron. The compression plunger has to be kept cool by a constant current of water.

A machine (Exhibit C) similar to that shown in Exhibit B (a machine of two elements), working at the Chazotte mines, near St. Etienne, produces 18 tons of briquettes per day of 10 hours, working at 30 revolutions per minute. The mixture contains 3 per cent. of water and 5 per cent. of pitch. It is mixed in a horizontal mixer heated directly by a fire. The cohesion of the briquettes is increased by an apparatus used by the Paris, Lyons, and Mediterranean Railway Company. It consists of a horizontal cylinder of

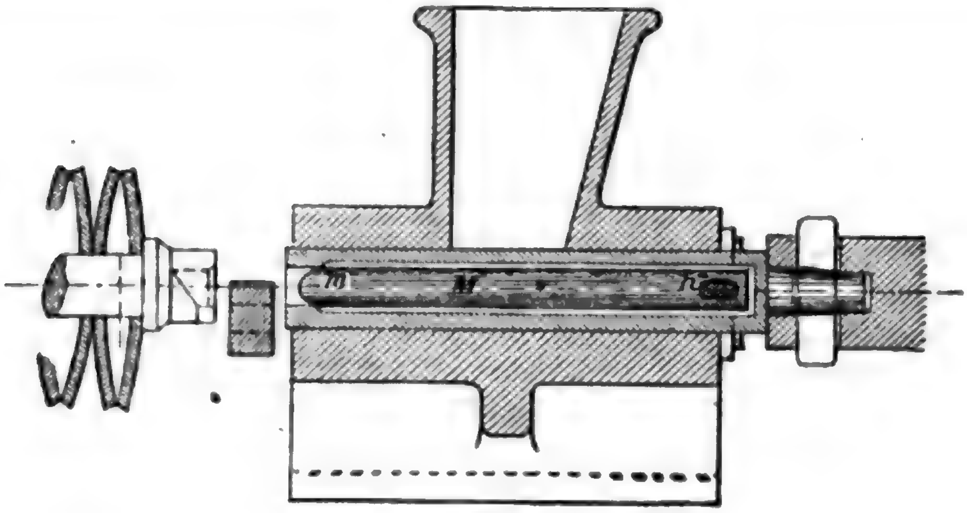

Fig. 1.

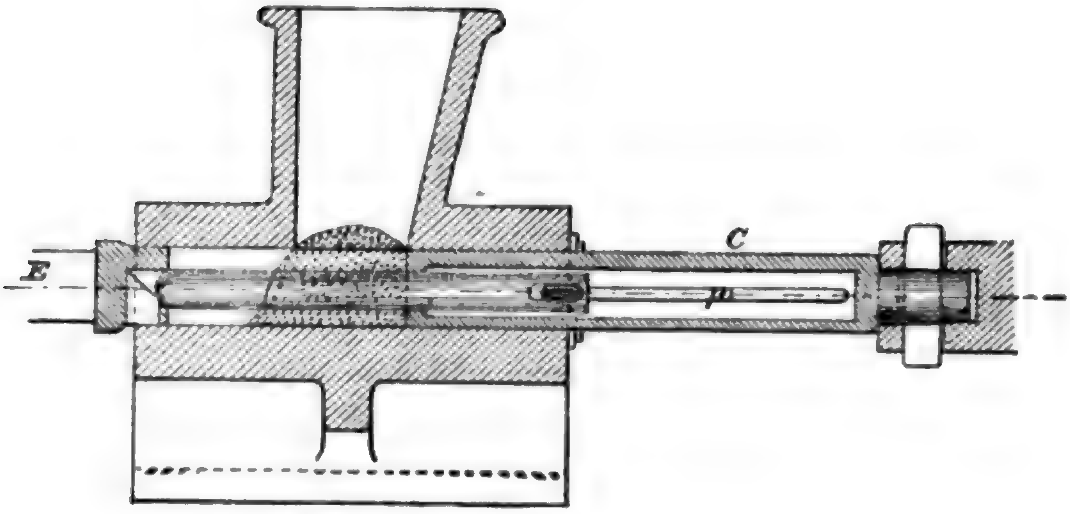

Fig. 2.

EXHIBIT C.

sheet-iron 35.5 inches in diameter and 37.5 inches long, fitted with three wings 8 inches wide and the length of the cylinder, fixed to the inside of the shell. Fifty kilogrammes of the briquette mixture are put into the cylinder, and the cylinder is turned for 10 minutes at twenty-five revolutions per minute, The charge is then emptied upon a sieve with 1.18-inch holes, and it is expected to find 82 per cent. of the briquettes resting upon the sieve.

The briquettes formed by this machine are 2¾ inches in diameter and 1¾ inches long. This is the form preferred for locomotives. For domestic purposes, hollow briquettes can be formed by Figs. 1 and 2 (Exhibit C), which is self-explanatory. The briquette is perforated by the pin M, fixed in the center of the mold by the key *n*, and its end is supported by the plug E. The compressing plunger C is, in this case, bored out to pass over the pin M, and has a slot *p* cut out on each side to clear the key *n* when working in and out of the mold.

C. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, March 24, 1891.

BERLIN SEWERAGE IRRIGATION SYSTEM.

REPORT BY CONSUL-GENERAL EDWARDS.

The westward growth of the city of Berlin, and the consequent construction of new streets in direct connection with Berlin streets, but beyond the city limits and within the municipalities of Charlottenburg and Schöneberg, has been the cause of various complex questions. The drainage of these streets was exceedingly difficult for Charlottenburg and Schöneberg, and, at the same time, Berlin incurred the danger of having the healthful effect of its sewerage system impaired by the drainage of filth into the ship canal. As incorporation of these independent municipalities was impossible, nothing remained but to come to an agreement with them. Accordingly, an agreement was made with Charlottenburg in November, 1885, in regard to that part of its territory extending from the Church of the Twelve Apostles almost to the Zoölogical Gardens, and another agreement was made with Schöneberg in August, 1886, in regard to its territory between the Botanical Gardens and Motz street. It was, therefore, decided to extend the sewerage system beyond the city limits.

At the end of 1888 there were in operation 126,084 metres of walled canals, 441,883 metres of earthenware pipes, and 71,343 metres of force pipes. By means of the earthenware pipes and canals (sewers) 18,221 Berlin built lots (including 27 public closets) were drained.

For the consumption of this sewer water from streets and lots, which is sent out of the city from the pumping stations through force pipes, the city has beyond its limits 3,693.09 hectares (1 hectare = 2.471 acres) of land suitable for irrigation.

The cost of erecting all these works up to the close of the fiscal year 1888–'89 was 69,261,848.84 marks, which was obtained through loans. Of this sum there were expended—

	Marks.
Canals and earthenware-pipe systems	34,746,527.03
Pumping stations (land, buildings, machinery, etc.)	4,752,360.28
Force-pipe systems	9,578,324.69
Suitable farms	12,485,240.02
Adapting 3,202.06 hectares to irrigating purposes	6,168,129.71
Incompleted adaptations	469,270.89
Other expenses on such farms (buildings, machines, roads, regulation of streams, etc.)	1,061,996.22
Total	69,261,848.84

While this project of using the sewer water for agricultural purposes, instead of allowing it to run into the River Spree, has been warmly indorsed by the population of the city, it at first met with some opposition from the State. In 1882 a ministerial commission was appointed to watch the construction and management of the irrigating works of the city of Berlin. Much anxiety was caused in the year 1883 by the report of a State minister to the effect that a further extension of the Berlin sewerage system ought not to be permitted. That the objection has been overcome and the obstacles raised by the country police removed goes to prove that the cleansing of large cities is best effected by this system. The more thought given to this subject the more quickly does the correctness of this conclusion appear.

According to a municipal statute of March 7, 1877, persons whose property borders on new streets are responsible not only for the costs incurred in the purchase of the street surface and in paving, but also for the cost of drainage, and, in justice to inhabitants of thinly populated quarters, a fixed unit of cost had to be adopted for the whole city; the amount thus due for drainage is estimated at 50 marks per metre of street front. In like manner 50 marks per metre of street front is assessed on those streets of Schöneberg and Charlottenburg to which, as shown above, the sewerage system of Berlin was extended, and, in addition to this amount, an annual tax of 6 marks per metre of street front.

The cost of connecting the following six pieces of property with the municipal sewers was borne by the owners of the same:

(1) The garrison hospital, near Tempelhof.

(2) The train establishment on the Tempelhof road.

(3) The aniline factory on the Wiesenüfer.

(4) The technical high school in Charlottenburg.

(5) The Elizabeth hospital for children on the Hasenhaide.

(6) The barracks of the first and second batallions of the railway regiment in Schöneberg.

The receipts from these pieces of property in the fiscal year 1888–'89 amounted to 9,087.74 marks, the receipts in the same period from the municipalities of Charlottenburg and Schöneberg were 59,538.92 marks, and the receipts from lots within the Berlin city limits amounted to 1,951,370.51, making a total of 2,019,997.17 marks.

The expenses of the central drainage department and the cost of operating the sewers, pumping stations, etc., amounted to 801,837.16 marks.* There therefore remained over for payment of interest and amortization of loans incurred for constructing pumping stations, sewers, etc., 1,218,160.01 marks. The loans for these purposes amounted to 49,077,212 marks at the close of the fiscal year 1888–'89.

As the amount requisite for interest and amortization was 2,616,997 marks, there was a deficit for this purpose of 1,398,836.99 marks. Moreover, there were other expenses incurred in the completion of radial systems, as well as in the purchase of farms, the adaptation of the same for irrigation, and the erection thereon of necessary buildings, which were paid from loans. The amount expended for such purposes up to the close of 1888–'89 was 20,184,636.84 marks, which required for interest and amortization 1,068,163 marks per annum. As the net surplus of gain from all the irrigated farms was, in 1888–'89, only 219,756.20 marks, there was here, also, a deficit amounting to 848,406.80 marks. By adding to this the foregoing deficit of 1,398,836.90 marks the total deficit is shown to have been 2,247,243.79 marks. This, with other small expenses, necessitated a payment from the city treasury of 2,318,552.85 marks. Up to the present the city council has refused to remedy this state of affairs by raising the rate of drainage dues. From 1882–'83 to 1887–'88 this annual deficit increased from 1,223,633 to 2,449,831 marks, but in the year 1888–'89 it decreased about 150,000 marks. This was due to the relatively favorable results on the irrigated farms. The word relatively is used because not one of these farms paid enough to cover the interest on the amount invested in it. This financial loss is, however, borne with resignation, in view of the good effects thus obtained. When, 17 years ago, the city council decided to adopt this general sewerage system, it stated that it was done "because we are thoroughly convinced that the adoption of this system is the only way to obviate the ever-increasing complaints in regard to the condition of our streets, to stop the poisoning of the ground on which we live, to prevent the defiling of our water courses, and to create in our houses, which shelter nearly a million inhabitants, conditions which will render cleanliness and salubrity possible and be an important forward step for our city."

These results have been obtained, and hence fault is no longer found with the irrigated farms, as they were not established as a financial venture. Moreover, it must be borne in mind that only a part of these farms have been put into working order. If only the older farms be considered—(1) Osdorf, with Heinersdorf and Frederikenhof; (2) Grossbeeren; (3) Falkenberg, with Birknersfelde and Neüahrendsfelde; (4) Malchow, with Blankenburg and Wartenburg—the expended capital (16,021,096.46 marks), it will

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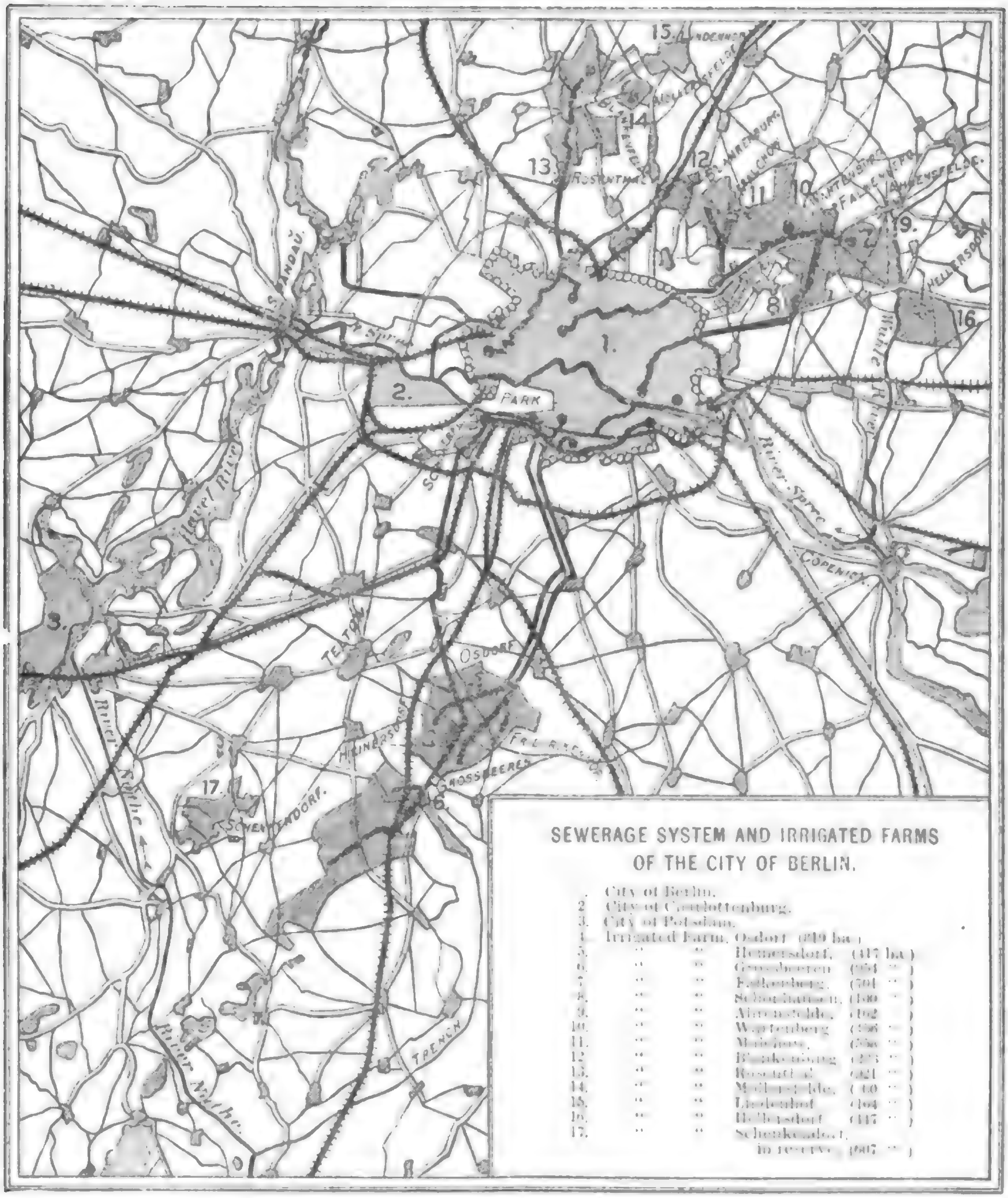
*According to the principle, which obtains in all the municipal departments, that each department must pay its own administrative costs, the drainage commission was obliged to pay from its own receipts its personal and office expenses, amounting to 79,320.14 marks.


SEWERAGE SYSTEM AND IRRIGATED FARMS OF THE CITY OF BERLIN.
1. City of Berlin.
2. City of Charlottenburg.
3. City of Potsdam.
4. Irrigated Farm, Osdorf (819 ha.)
5. " " Heinersdorf, (417 ha.)
6. " " Grossbeeren (954 ")
7. " " Falkenberg, (704 ")
8. " " Schönhausen, (100 ")
9. " " Ahrensfelde, (162 ")
10. " " Wartenberg (596 ")
11. " " Malchow, (556 ")
12. " " Blankenburg (275 ")
13. " " Rosenthal (621 ")
14. " " Möllersfelde, (110 ")
15. " " Lindenhof (164 ")
16. " " Hellersdorf (417 ")
17. " " Schenkendorf, in reserve, (667 ")
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9.
10.
11.
12.
13.
14.
15.
16.
17.
PARK
SPANDAU
SPREE
Havel River
TELTOW
OSDORF
HEINERSDORF
GROSSBEEREN
SCHENKENDORF
River Nuthe
River Spree
COPENICK
Wuhle River
HELLERSDORF
AHRENSFELDE
FALKENBERG
WARTENBERG
MALCHOW
BLANKENBURG
ROSENTHAL
LINDENHOF
TRENCH

be seen, requires for interest at 3½ per cent. (leaving out of account amortization, which is not, properly, to be considered among the expenses) 560,738.38 marks. The proceeds from these estates in 1888–'89 were 237,990.70 marks; hence the deficit of interest was 322,747.68 marks. While this result does not look brilliant, as a fact it is much more favorable per head of population than are the results in other cities employing different systems for cleansing their sewer water. In numbers 16 and 18 of the Sanitary Engineer, newspaper for the year 1889, Chief Engineer Lüttberge, of Freiburg, in an article entitled "Clarifying Establishments and Irrigated Farms," showed, from official data, that the cost per head of population for purifying such water was, at Frankfort, 1.22 marks; Wiesbaden, 0.68 mark; Essen, 0.56 mark; the irrigated farms of Berlin, 0.48 mark. As a matter of fact, moreover, the cost of purifying water in this way in Berlin in radial systems 1 to 7, with a population of 1,193,207 souls, was, in the fiscal year 1888–'89, only 0.27 mark.

But not only in a financial way is the result favorable to the irrigated farm system. While the value of purely mechanical and technical clarifying establishments constantly decreases from wear and tear, the value of these constantly manured estates continually increases. Furthermore, the water which flows away from the irrigated fields is chemically, physically, and bacteriologically purer than that which flows from artificial purifying establishments into the public water courses.

Before showing the practical results of agriculture on the irrigated farms, it may be well to remark that (1) the estates of Hellesdorf and Schenkendorf are not yet used as irrigated farms; (2) Osdorf with Frederikenhof and Heinersdorf, Falkenberg with Birkenfeld and Arendsfelde, and Malchow with Blankenberg and Wartenberg are each treated as one farm, so that, with Grossbeeren, there were four farms; (3) of the lands adapted to irrigation in the year 1888–'89 639 hectares and 3 ares were rented to 408 persons.

As of further explanatory interest, there are given with this report (1) a map giving a general idea of the manner in which disposition is made of the sewer waste of Berlin, and (2) a table of agricultural and pecuniary statistics for the fiscal year 1888–'89 for the four irrigated farms referred to.

It will be seen from this table that the greatest net profit was obtained from cattle turnips and horse carrots—respectively, 250 and 200 marks per hectare; that the profits from summer and winter wheat, winter rape, potatoes, and cabbages exceeded 100 marks per hectare; and that the profits on all other articles were less than 100 marks per hectare, the cultivation of mustard and hemp being even at a loss.

In closing this report it must be added that in the period under report sewer waste was not only used for watering and manuring the city farms, but was also sold to neighboring farmers, the receipts from this source being 3,697.30 marks.

Table showing the gross and net results of agriculture on the four irrigated estates, Osdorf, Grossbeeren, Falkenberg, and Malchow, in the fiscal year 1888–'89.

Name of crop.	Area.	Average crop per hectare.		Average selling price per 100 kilogrammes.		Gross receipts per hectare.	Net receipts per hectare after deduction of 250 marks for expenses.	
		Grain, etc.	Straw.	Grain, etc.	Straw.		Gain.	Loss.
Wheat:	*Hectares.*	*Kilos.*	*Kilos.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Winter..........	83.81	1,620	3,011	18.16	2.71	375.80	125.80	....
Summer..........	181.09	1,664	3,312	18.73	3.05	412.68	162.28	....
Rye:								
Winter..........	397.35	1,694	3,072	15.12	3.04	349.52	99.52	....
Summer..........	11.42	1,136	2,409	15.00	3.89	264.11	14.11	....
Barley..........	76.54	1,534	1,783	13.50	2.82	257.37	7.37	....
Oats..........	380.74	1,614	2,916	13.80	2.90	307.30	57.30	....
Winter rape..........	23.53	1,657	3,136	21.92	1.00	394.57	144.57	....
Winter turnips..........	23.36	1,495	2,817	20.99	1.00	341.97	91.97	....
Summer rape..........	26.5	1,133	2,033	25.67	1.00	311.17	61.17	....
Mustard..........	2.65	200	1,400	20.00	1.00	54.00	....	196.00
Hemp:								
Thread..........	28.63	7,555	....	3.00	....	226.65	....	23.35
Seed..........		600	5,200	10.00	1.00	112.00	....	138.00
Cattle turnips..........	373.16	30,400	....	1.65	....	501.60	251.60	....
Horse carrots..........	24.22	22,167	....	2.02	....	447.77	197.77	....
Potatoes..........	53.13	11,372	....	3.38	....	384.37	134.37	....
Cabbage..........	44.92	12,263	....	3.00	....	367.89	117.89	....
Grass..........	781.96	59,534	....	.5335	....	317.61	67.61	....

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, May 20, 1891.

AGRICULTURAL CREDIT CONDITIONS IN AUSTRIA.

REPORT BY CONSUL HAWES, OF REICHENBERG.[*]

One great cause of agricultural distress in Austria is to be attributed to the limited scope of agricultural credit conditions. Credit has not, in most cases, the characteristics which the Austrian farmer, by virtue of his importance, should demand.

The rate of interest depends upon the condition of the market, and reaches here, on account of demand fostered by speculation, a height which no estate can bear.

The researches of the central statistical commission during the last year show that registered debts secured by real estate amounts in those lands where a registry system exists, as Bohemia, Moravia, Silesia, upper and lower Austria, Styria, etc., to 3,062,000,000 florins, while small estates alone are indebted in 2,000,000,000 florins, paying as high as 12 per cent., while the larger sums pay 5 and 6 per cent. When it is considered that rents are continually falling, and that Austrian estates in very good districts produce only an earning of 3 to 5 per cent. on an average, it will be seen that the land will not stand such interest. On the contrary, these conditions lead to the continual contraction of new debts.

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[*] In answer to instructions from the Department, at the request of the editor of a leading eastern agricultural journal

In order that agricultural credit may really aid the farmer it must (1) be cheap, so that the interest bears a proper relation to production; (2) there must be a fixed rate of interest, uninfluenced by speculation, based entirely upon the rent of the property, if rented; (3) the principal should not be demanded so long as payments are promptly made and interest paid up.

In regard to the various banking institutions of Austria, they have more connection with manufacture than with agriculture, and the Vienna, Prague, and Buda-Pesth banks devote themselves almost exclusively to industry and trade.

THE HYPOTHEKENBANK.

Two great institutions—the Hypothekenbank of the Kingdom of Bohemia and the Landwirthshaftlichen Credit Bank—occupy themselves with transactions with the great agricultural estates.

The first emits "pfandbriefe" based upon their securities and guarantied by the Government. The loans made by this bank are not made in cash, but by issuing their own deeds—the pfandbriefe above referred to. The whole amount of such deeds in circulation must not exceed the amount of actual loans. The rate of interest of mortgage deeds is from 4 to 5 per cent., and is equal to the interest on the mortgage for which the deeds have been issued. Every year it is determined by chance what proportion of the deeds must be cashed. The Government is responsible for the claims of holders of deeds according to the statutes. As the deeds are dealt in "on 'change," they offer excellent investment for orphans' money, etc. The holders of such deeds can at any time sell their claims on the bank. The extent of 4 and 5 per cent. pfandbriefe amounts at present to about 100,000,000 florins.

THE LANDWIRTHSHAFTLICHEN CREDIT BANK.

The Landwirthshaftlichen Credit Bank does a commission business, helps especially the export of sugar, grants hypothecation credits, and gives therefor certificates in amounts of 100, 500, 1,000, and 5,000 florins. It cultivates, also, credit verein transactions, and there belong to it various credit associations of the provincial towns, as well as the sugar factory credit associations. The capital amounts to 2,000,000 florins, divided into 10,000 shares of 200 florins each, of which 100 florins each is paid up. The fund can, however, with the permission of the Government, in case of need be raised to 12,000,000 guilders. For security the general fortune of the bank is held, with the exception of the safety and reserve funds.

The connection which this bank has with agriculture is the granting of loans secured by mortgages, liens on crops, implements, etc., and the insurance of machinery, implements, and animals. The bank is also empowered to aid economical undertakings, especially those for the improvement of land.

In regard to the length of credit, personal credit is granted for indefinite periods and secured credit only for fixed periods, never longer than 3 years. The enjoyment of an open credit can only take place when the applicant has deposited a sum amounting to 5 per cent. in cash of the credit granted in the general safety fund and given the necessary securities. With secured loans this payment is omitted, as the safety fund has nothing to do with such credits. The value of real estate about to be mortgaged is usually fixed by the amount produced by the land and soil. Twenty times this yearly amount will be advanced.

Far more than these great banks, and operating much more advantageously for the small landowner, are the savings and advance funds (*Spar und Vorschusskassen*) and the Agricultural Credit and Partnership Association (Landwirthschaftlichen Credit und Genossenschafts Verein), and these require a much less rate of interest.

CREDIT ASSOCIATIONS.

The agricultural associations, which arise from the union of a number of landowners, accomplish very important work, and wherever they have been established they have succeeded. These accomplish definite undertakings; for instance, for the regulation of streams in one or two communities, a *Wassergenossenschaft* will be founded; for the drainage of fields and meadows of an entire district, a *Drainagegenossenschaft;* or one for the procuring of implements, machines, and other articles needed for agricultural purposes, which are bought wholesale and delivered to members at less than the retail price.

CREDIT ASSOCIATION OF RAIFFEISEN.

In the last few years a very effective agency in agricultural credit conditions has been developed in the shape of a loan association according to the Raiffeisen system, which is being yearly extended.

The Country Savings and Loan Fund Association, according to the system of F. W. Raiffeisen, has for its object the moral and material improvement of its members, the making of loans to members under a general guaranty, as well as the employment of such unemployed capital as is not needed. With this object in view smaller sums are received, the limit being fixed by the general assembly.

The objects of the society, succinctly stated, are:

(1) To furnish its members money for agricultural purposes in proportion to their credit and reliability under a general guaranty.

(2) To accept deposits of unemployed capital.

(3) The creation of profitable and economical partnerships in the district of the association.

Only responsible owners, lessors, or holders of land in the district, who are in full enjoyment of their rights of citizenship, and who are not members of any other credit associations, are admitted to membership.

The society must be informed, with each application for a loan, of the use to be made of the money, and the officers of the society are required to watch that such loans are only used for agricultural purposes and in the manner promised. The length of the loan depends upon the purpose for which it is made, and any false use of the money gives the society the right to demand and recover the amount at once.

In order that the officers of the society may be accurately informed of the character of the members, their management, and responsibility, the society should embrace only a small district or several neighboring small communities. In this way the credit of each member may be watched and the danger of loss reduced to a minimum, business simplified, and a journey to a distant town, with the consequent expenses, saved the applicant.

In this limitation of its scope lies one of the greatest advantages of the Raiffeisen theory, though, of course, efficient management and control of loans is all-important in securing that success which this theory has achieved at home.

Officers of the association are bound to preserve the greatest secrecy concerning borrowers, so that no one may be driven into the hands of usurers through a false sense of shame. A free community will thus be created, where independence in society reigns, where the man of small means is not obliged to avoid one of fortune on account of being his debtor.

Every member is entitled to a loan not exceeding the maximum amount, usually 1,000 to 1,500 florins. The loan fund has then for its principal object the furnishing of small current personal and business loans. Larger advances are an exception, and can only be granted by older and richer associations. Members pay only a moderate interest, the rate being fixed by the society, and they may at any time deposit their surplus cash. Usually loans pay an interest of one-half of 1 per cent. to 1 per cent. higher than the association allows on deposits.

According to the statutes of lower Austria, in no case can the interest on loans be more than 1½ per cent. greater than on deposits. In Klein-Petersdorf, for instance, deposits are at present paid 4 per cent., while loans are charged 4¾ per cent.

Each member is bound to pay in his portion in accordance with the laws of the society, and makes himself responsible to the extent of his whole fortune for the affairs of the society. Of course, by means of such unity the credit of the concern is increased. Experience shows that the members run no great risks in cases of proper management. Should the society really be called upon to pay for a debtor, the reserve fund would be first employed, then the assets, and only when these proved insufficient would, in accordance with the law of the society, the obligation fall upon the individual members. Loans are only made to those members who are known to be reliable, and within a fixed amount and for agricultural purposes, and good security is always given.

In the 40 years' existence of these societies there has never been a case where a member has been injured by the responsibilities which he has assumed in becoming a member of such an association.

As already stated, each member must subscribe for a share, however small, and thus the business capital is created. According to the real principle of Raiffeisen, however, no member should receive more than one share.

Interest is paid on shares either in the shape of a dividend or, as on deposits, at a fixed rate. In no case, however, should the interest on shares exceed that paid on loans, and members should receive no more interest than at this rate.

In order that membership may be open to all, the value of the shares is fixed at from 10 to 20 florins. It should also be made possible to purchase them on installments. In accordance with the statutes of the Lower Austria Land Commission, a member may hold as many as twenty-five shares.

When, as in Austria, the shares draw a fixed rate of interest, the same as that paid upon deposits, nothing can be said against holding several shares. The association thus accumulates a larger business capital, whereas the possessor of the various shares has only one vote, though increasing his risks. When, however, the interest on shares is paid in the form of a dividend, even if this does not exceed the rate paid on loans, this modification of the Raiffeisen principle must be handled with care, and can scarcely be recommended, inasmuch as the holding of many shares may cause efforts to be made to increase the rate of interest. Such influences must be strongly combatted. It is, on the whole, recommended to limit the members to one share. To those who claim that the business capital will thus be limited it may be remarked that every member is free to furnish as much money as he pleases as deposits.

The capital arising from deposits, sales of shares, etc., will only be lent to members. Securities may be in the form of bond, deposit of securities, or a mortgage. A note of hand is, according to the Raiffeisen theory, entirely excluded, and this principle is adhered to in lower Austria. In Moravia Silesian "Kuhländchen" notes are accepted.

It is most strongly recommended to adhere strictly to the principles adopted by Raiffeisen in funding his credit verein, which are to-day governing over one thousand successful institutions of this character, and have been so thoroughly tested that even a small modification may prove a disadvantage. It is true that fiscal reasons may cause a modification to be necessary; for instance, in Austria the stamp tax, which is nearly five times heavier on bonds, mortgages, etc., than on a note of hand or bill of exchange, causes the latter security to be employed. In lower Austria loans are made for so long a period as 4 years only in exceptional cases. It is thought by many that this is too short a time.

The difference between the interest on loans and that paid on deposits constitutes the profits. From these profits are first paid the society's expenses, then the interest or dividends on shares. Any excess is employed as business capital or is used for other purposes.

Whereas other loan funds pay dividends of 20 per cent. or more, according to Raiffeisen's system the excess is used to create a fund, and when this fund reaches an amount agreed upon its collection shall cease and the rate of interest shall be further reduced. The association must make no profit from the necessities of its members. Profits should be used only for his security and to increase his capabilities; when this is accomplished, they should be reduced or applied for the general benefit of all members. And just because this system does not seek to produce high dividends and contents itself with reasonable interest, is credit made cheap and the principal aim of the society reached.

As a corporation of debtors, its first regard is for the needy, and not to provide large dividends for the creditor. The confidence of capitalists must be secured through the security offered and the reliability of the management, and not by producing dividends at the expense of the needy.

The management of the society is in the hands of a committee of five, which decides in regard to the admittance of new members, the granting of loans, etc. To this committee is also attached a treasurer or bookkeeper. A board of directors of nine members supervises the acts of the committee and treasurer. However, the general meeting, which usually takes place semiannually to elect committees, fix the rate of interest, and attend to other matters of importance, is supreme.

JOHN B. HAWES,
Consul.

UNITED STATES CONSULATE,
Reichenberg, June 10, 1891.

WOOLEN-GOODS TRADE OF BELGIUM.

REPORT BY COUNSEL DANFORTH, OF LIEGE.

WOOLEN YARNS.

The commercial movement of 1890 is not considered a good one, and for wool-spinning it was quite disastrous. On an average, there was no profit in spinning, and several spinning mills were forced to cease work, and some failed.

Table showing the importation of combed and carded woolen yarns into Belgium.

Whence imported.	1890.	1889.	1888.
	Kilos.	*Kilos.*	*Kilos.*
Germany	71,730	54,330	52,420
England	160,390	186,380	164,300
France	595,480	673,610	663,330
Other countries	11,400	14,080	10,640
Total	839,000	928,400	890,690

The slight diminution of importations may be explained by the enlarged production of combed woolen yarn and the greater favor that fashion some months ago began to show to carded woolen cloths.

The importation consists almost exclusively in combed woolen yarn and yarn for knitting and embroidering purposes, which are not manufactured in Belgium.

The customs duties collected by the treasury upon the above were 218,750, 243,320, and 232,660 francs, respectively.

Table showing the exportation of woolen yarns from Belgium.

Whither exported.	1890.	1889.	1888.
	Kilos.	*Kilos.*	*Kilos.*
Germany and Austria	3,063,660	4,186,700	3,933,170
England	6,930,920	7,518,300	7,078,950
France	319,130	502,860	660,680
Other countries	796,400	449,920	321,250
Total	11,110,110	12,657,780	11,994,050

The diminution is considerable. The difference, compared with 1889, is 1,547,670 kilogrammes, and, compared with 1888, it is 883,940 kilogrammes. This decrease is explained by the bad state of business through the whole year. This period is the worst ever observed in wool-spinning, and there is up to this moment no change in the situation. Germany and Austria show the largest decrease.

Business was bad in both of these countries, especially in Austria. The cloth manufacturers were partly deprived of orders, and, besides, the Belgian spinners had to sustain the competition of the "home mills," which are now growing in importance.

England is still the principal market for Belgian yarns. Here the decrease is not so important.

France took only 319,130 kilogrammes, while she took 502,860 kilogrammes in 1889 and 660,680 kilogrammes in 1888.

This change comes especially from the change in the fashion, which turns more or less to carded woolen stuffs. The other countries show an important increase. This was due to important purchases made by the United States. But this did not last long, the new tariff having almost completely shut this yarn out of the United States.

WOOLEN TISSUES.

Table showing the importations of woolen tissues into Belgium.

Articles.	1890.	1889.	1888.
	Francs.	*Francs.*	*Francs.*
Cloth and similar goods	2,558,290	2,191,290	2,221,900
Heavy tissues	2,029,760	1,765,400	1,423,430
Light tissues	16,489,560	15,630,080	16,174,830
Total	20,877,610	19,586,770	19,820,160

There is an increase of 1,290,840 francs. While Germany furnishes only 75,000 francs of cloth, she increases the shipments of heavy tissues 68,000 francs and the light tissues 605,000 francs.

England increases her sales of cloth 240,000 francs; heavy tissues, 286,000 francs; and light tissues, 235,000 francs. It looks as if fashion was favoring England.

With France the variation is very slight. There is a diminution of about 1,000 francs in cloth, an increase of about 30,000 francs in heavy tissues and 53,000 francs in light tissues.

For other countries the variation is not worth mentioning.

Table showing the exports of woolen tissues from Belgium.

Whither exported.	1890.	1889.	1888.
Cloths, cassimeres, and similar goods.	*Kilos.*	*Kilos.*	*Kilos.*
Germany	154,750	119,220	91,120
England	170,010	74,060	83,000
Brazil	21,110	25,290	30,350
United States	182,230	156,900	178,140
France	461,420	503,970	571,830
Argentine Republic	97,760	67,130	67,450
Netherlands	142,500	96,930	130,280
Other countries	251,370	334,260	223,780
Total	1,481,150	1,377,760	1,375,950
Coatings, duffels, and other heavy tissues.			
England	45,300	90,440	61,160
Brazil	5,230	9,020	10,820
United States	13,930	41,380	9,280
France	18,490	17,330	41,550
Hamburg	15,600	78,300	13,300
Netherlands	33,730	34,510	39,330
Argentine Republic	25,450	74,890	46,010
Other countries	67,360	36,810	46,320
Total	225,290	382,680	267,770
Light tissues.			
Germany	10,760	59,370	9,180
England	161,340	89,140	109,680
France	145,100	164,000	130,100
Hamburg	11,800	2,100	24,300
Italy	48,470	44,650	37,170
Netherlands	206,330	224,580	132,820
Argentine Republic	28,120	7,490	30,970
Switzerland	162,550	34,350	5,340
Other countries	85,860	61,580	103,900
Total	869,360	687,260	587,700

In considering the above figures we find a steady increase. There was, in 1890, an increase of 104,000 kilogrammes, compared with 1889, for cloth. The light tissues show an increase of 182,000 kilogrammes, while the heavy tissues show a decrease of 157,000 kilogrammes. The three kinds together give an increase of 123,000 kilogrammes, compared with 1889, and 344,000 kilogrammes, compared with 1888.

The above statistics are taken from a semiofficial article appearing in the organ of the Verviers Chamber of Commerce.

JAMES R. DANFORTH,
Consul.

UNITED STATES CONSULATE,
Liege, April 10, 1891.

TRADE AND INDUSTRIES OF THE WINNIPEG DISTRICT.

REPORT BY CONSUL TAYLOR.

THE CONSULAR DISTRICTS DEFINED.

The consular district of Winnipeg, British North America, includes three divisions—eastern, or the Port Arthur district of the province of Ontario; central, or the province of Manitoba, containing the Winnipeg consulate and the consular agencies of Emerson, Gretna, and Deloraine, on the international frontier; and the Northwest Territories of Canada between Manitoba and the Rocky Mountains, with a consular agency recently established at Lethbridge. York Factory and other ports on the western coast of Hudson Bay report to the Canadian collector at Winnipeg.

IMPORTS.

The commerce of Manitoba and York Factory will be first considered. The foreign imports for the year ended June 30, 1890, were $2,071,264 dutiable goods, returning a revenue of $649,026.75, and $482,021 free goods, a total of $2,555,285. The general character of this trade, and especially its relation to the United States and Great Britain, will be illustrated by the following table:

Table showing the imports into the Winnipeg consular district from the United States and Great Britain for 1889-'90.

Articles.	From the United States.	From Great Britain.
Ale and beer:		
In bottles	$12,426	$5,246
In casks	2,922	213
Animals (living):		
Horned cattle	562	....
Hogs	624	....
Horses	25,220	....
Sheep	2,652	....
Other	469	25
Baking powder	25,405	2
Books	12,369	8,382
Brass, manufactures of	3,913	586
Breadstuffs	172,178	6,813
Brick and tiles	5,075	....
Candles	1,243	198
Carriages	10,364	282
Clocks	2,511	....
Coal (bituminous)	34,718	234
Copper, manufactures of	1,105	1,300
Cotton, manufactures of	12,685	75,497
Drugs and chemicals	8,886	3,397
Earthenware and china	1,548	8,868
Fancy goods	2,353	18,282
Fish	8,723	926
Flax, manufactures of	638	17,874

Table showing the imports into the Winnipeg consular district, etc.—Continued.

Articles.	From the United States.	From Great Britain.
Fruits:		
Dried and nuts	$29,749	$2,499
Green	55,292	10
Furs and manufactures	2,494	614
Glass and manufactures	8,663	2,866
Gloves and mittens	5,123	7,499
Gold and silver and manufactures	2,511	1,369
Gunpowder and explosives	5,363	3,000
Gutta-percha, manufactures of	6,615	4,693
Hats, caps, etc	7,170	5,814
Honey	1,312	....
Hay	26,787	26
Hops	3,608	402
Iron and steel, manufactures of	221,328	17,155
Jewelry	5,723	755
Leather and manufactures	16,992	2,844
Musical instruments	6,386	912
Oils:		
Animal	435	....
Mineral	26,812	29
Vegetable	3,837	245
Paints and colors	960	95
Paper and manufactures	17,242	4,201
Provisions	162,318	5,565
Silk and manufactures	1,039	30,360
Spices	594	350
Spirits and wines	4,143	10,355
Stone and manufactures	3,501	11
Sugars, sirups, etc	17,379	6,254
Tallow	3,009	....
Tea	357	26,727
Tin and manufactures	3,088	437
Tobacco and manufactures	17,436	3,762
Twine	269	90
Vegetables	32,653	190
Watches and materials	4,570	73
Wood and manufactures	252,237	3,154
Wool and manufactures	2,417	234,192
Miscellaneous	110,543	146,131
Total	1,420,995	581,107

The total dutiable importations included $69,162 from other countries, the leading articles of which were: Window glass, $9,639, from Belgium; manufactures of cotton, $3,652, from Germany; dried fruits, $774, from Greece; and spirits and wine, $13,492 from France, $2,682 from Holland, and $2,761 from Portugal; also, watches and materials from Switzerland.

The Manitoba importations of free goods, including entries at Winnipeg and the frontier ports of Emerson and York Factory, were: From the United States, $343,120; from Great Britain, $110,399; from other countries, $30,502; total, $484,021. The leading articles from the United States were: Anthracite coal, $20,536; eggs, $12,681; green fruit, $47,744; undressed furs, $2,139; steel rails, $54,207; copper wire, $17,746; settlers' effects, $85,040. The leading articles from Great Britain were: Salt, $488; settlers' effects, $24,416; black tea, $35,954. Other imports of tea were: From China, $17,016; from Japan, $5,808.

The dutiable importations at the consular agency of Port Arthur, Ontario, were $268,858, of which $264,962 were from the United States, $2,684 from Great Britain, and $1,212 from other countries. The leading articles were: Bituminous coal, $206,891; meats, $17,844; coal oil, $13,244; iron machinery, $6,515; gunpowder, $5,223; also, free entries of anthracite coal valued at $32,317 and other articles amounting to $41,509, of which $40,759 were from the United States.

The dutiable importations of the Northwest Territories were $104,863; free goods, $37,836; total, $142,699—entered at the Canadian port of Fort McLeod, imported from the United States, except $3,631 from Great Britain, and consisting almost exclusively of animals and emigrant effects.

The imports of the Winnipeg consular district distributed as above were as follows:

Whence imported.	Dutiable.	Free.	Total.
Manitoba	$2,071,264	$484,021	$2,555,285
Port Arthur	268,858	41,509	310,367
Northwest Territories	104,863	37,836	142,699
Total	2,444,985	563,366	3,008,351

CANADIAN REVENUE.

Upon the aggregate of $2,444,985 dutiable goods the duties received amounted to $752,501.58, or an average of 25 per cent. ad valorem, including specific duties expressed in ad valorem.

EXPORTS.

The Manitoba exports, including only shipments from Winnipeg, Emerson, Gretna, and York Factory, were as follows: $330,070 to the United States, $656,903 to Great Britain, and $1,411 to other countries; total, $988,384. To the United States the exports consisted mostly of buffalo bones, $10,139; fish, $95,931; undressed furs, $59,493; hides, $9,028; wheat, $911; and, in addition, the following articles more properly described as effects of emigrants to the United States, although enumerated by the officers of the Canadian customs as follows: Books, $3,321; clothing, $25,526; household effects, $18,382; iron and steel manufactures (sewing machines), $4,292; musical instruments, $3,790; wooden manufactures (furniture), $9,160. Of the exports to Great Britain $650,000, out of a total of $656,903, were undressed furs—nearly double the value of the previous year ($369,901)—shipped by the Hudson Bay Company.

The exports to the United States from Port Arthur, Ontario, were $204,356, of which the leading articles were: Fish, $12,988.54; silver ore, $180,136; silver bullion, $3,500; baryta ore, $850; emigrants' effects, $1,885. The exports to Great Britain were: Ores, etc., $15,100. The total exportation from Port Arthur was $219,356. The Canadian customs report no exportation from the Northwest Territories.

PACIFIC TRADE.

There has been no material change in the trade with British Columbia, which is estimated to be $200,000 of exports, principally flour, butter, and eggs, with return shipments of fish and lumber of equal amount.

DOMESTIC, OR INTERPROVINCIAL, COMMERCE.

The domestic exports to the eastern provinces have been chiefly 12,000,000 bushels of wheat, which for the year 1890 averaged 60 cents per bushel, amounting, with shipments of other cereals, fish, and furs, to $8,000,000. I still assume (in the absence of official reports of railway transportation) that the domestic imports into this consular district from the eastern provinces and British Columbia will be double the foreign importation, or $6,136,702.

Upon the foregoing basis the following aggregates are presented:

Table showing the trade of the Winnipeg consular district with various foreign countries in 1889-'90.

Countries.	Imports.	Exports.	Total.
Canada	$6,136,702	$8,000,000	$14,136,702
United States	2,168,125	534,426	2,702,551
Great Britain	698,591	672,003	1,370,594
Germany	21,711		21,711
China	17,024		17,024
France	16,823	3	16,826
Japan	15,538	983	16,521
Belgium	9,716		9,716
Holland	4,020		4,020
Spanish West Indies	3,746		3,746
Spain	3,073		3,073
Portugal	2,761		2,761
Turkey	1,312		1,312
Russia	865		865
Greece	774		774
Switzerland	641	400	1,041
British West Indies	323		323
Iceland	273		273
Austria	143		143
British East Indies	103		103
Egypt	96		96
Denmark	13		13
British Africa			25
Total	9,103,073	9,207,840	18,310,913

AGRICULTURE.

Passing from the general trade statistics of the fiscal year ended June 30, 1890, I anticipate the succeeding 6 months to the termination of the calendar year for the purpose of a statement of the crop of 1890. My own judgment concurs with the opinion of Mr. C. N. Bell, secretary of the Winnipeg Board of Trade, that the wheat crop yielded, at 20 bushels per acre, a surplus of 12,000,000 bushels for exportation, besides shipments of barley, oats, potatoes, and flaxseed to the amount of $1,000,000. The crop of potatoes was extraordinary—not less than an average of 235 bushels per acre.

RAILWAY PROGRESS.

In my last annual report I stated the total railway mileage in Canada, west of Lake Superior, as 3,310 miles, of which 1,326 miles were in Manitoba, including 266 miles of extensions to Winnipeg and Brandon by the Northern Pacific Railway. During 1890 the Canadian Pacific added 25 miles in Manitoba, branches north of the main line in the Northwest Territories from Regina to Prince Albert, on the North Saskatchewan River, 246 miles, and from Calgary, near the Rocky Mountains, in the direction of Edmonton, 100 miles, and in British Columbia about 50 miles, connecting with the international frontier and American lines in the Kootenay district, and due south of New Westminster and Vancouver. Other extensions are contemplated on the same lines during 1891, not less than 300 miles in extent. At the beginning of 1892 western Canada will have in operation 4,000 miles of railway to 400,000 people, or 100 miles per capita, a result attributable to land grants by the Dominion Government valued at $2.50 per acre, or $22,752,000, with a prospect of sale to settlers at double that amount. A similar land grant to the Hudson Bay Railway is estimated by Mr. A. M. Burgess, deputy minister of the interior, to have a present money value of $10,400,000 (length of road 650 miles), to which the Manitoba government adds a bonus of $1,500,000 on the completion of the line in 5 years. As to other railway enterprises, a connection with Manitoba from the Saskatchewan coal district is completed, but a more direct line from Duluth to Winnipeg is postponed until 1892.

JAMES W. TAYLOR,
Consul.

UNITED STATES CONSULATE,
Winnipeg, May 5, 1891.

PHOSPHORUS AND MATCHES IN SPAIN.

REPORT BY CONSUL TURNER, OF CADIZ.

PHOSPHORUS.

The greater part of the phosphorus consumed in Spain is imported from France. It pays an import duty of 35 pesetas per 100 kilogrammes, or $6.75½ United States gold.

The amount and value of the imports of phosphorus into Spain for the past 2 years were as follows: 1889, 48,176 kilogrammes, valued at 289,056 pesetas; 1890, 58,776 kilogrammes, valued at 352,656 pesetas. The foregoing are official figures. The principal places of consumption are indicated by the list of match manufacturers inclosed.

Quoted prices of French dealers are as follows: For boxes containing 10 cans, each can having in it sticks of phosphorus aggregating in weight 10 kilogrammes, and being hermetically sealed in water, 6.50 pesetas, or \$1.25½, per kilogramme; that is, 600 pesetas, or \$125.45, per 100 kilogrammes.

The terms of sale are: For sight draft on London or Paris, issued on presentation of bill of lading to purchasers, 5 per cent. off and a discount of 2 per cent. from above quotation. If the draft is drawn at 30, 60, or 90 days, a straight discount of 3 per cent. is given. When the order is accompanied by certified check or sight draft on London or Paris, a discount of 10 per cent. is made; but when sold on time, say 60, 90, or 120 days from date of arrival of goods at the place of business of purchaser, no discounts are given. I have no doubt that the foregoing price is shaded still more to large dealers, but how much I am unable to say. The prices given include freight and insurance to purchaser's place of business.

Cadiz or Seville would be a good point for distribution, and ships can be secured for Cadiz at any time by applying to Hagemeyer & Brunn, I. M. Ceballos, and R. Florez, of New York.

The proper way to secure trade here is to send over a salesman thoroughly instructed in every particular, and let him solicit orders. The cost of such an experiment would not be large, and it would be more satisfactory than months of correspondence. The fare from New York to Cadiz is \$70; traveling in Spain by rail, 3 to 6 cents per mile; by water, 2 cents per mile; hotel rates, from \$1 to \$3 per day. In addition to taking orders for phosphorus, he would find Spain a good market for many other chemical productions, and he could buy wine lees here cheaper than in any other country of Europe.

The following are wholesale importers of phosphorus who supply many match-makers: Hijos de José Vidal y Ribas, Barcelona; Vicente Ferrer, Barcelona; J. Buffin, Barcelona.

MATCH MANUFACTURERS.

The following are the names and addresses of the match manufacturers, with their trade-marks: Moroder Hermanos y Ca., Valencia, "El Globo;" Moroder Hermanos y Ca., Hospital No. 19, Barcelona, "El Globo;" Ramon Aymerich, Espendiction San Pablo, Barcelona, "La Luz Creciente;" Edwardo Alvarez, Cordova, "Santa Matilde;" José Gonzales, Calatrava No. 3, Seville, "La Corneta;" Garrido y Baldiz, Calle Garaicoechea, Cadiz, "La Trompeta;" Diaz Gonzalez y Ca., Calle San Francisco Paula 3, Cadiz, "La Gaviota;" Garay y Arregui, Oñate, Guipuzcoa.

WINE LEES EXPORTER.

Eduardo de Guernica, Calle Doblones, Cadiz, is an exporter of wine lees.

R. W. TURNER,
Consul.

UNITED STATES CONSULATE,
Cadiz, May 25, 1891.

APPENDIX.

RECIPROCITY WITH SPAIN.

BY THE PRESIDENT OF THE UNITED STATES.—A PROCLAMATION.

Whereas, pursuant to section 3 of the Act of Congress approved October 1, 1890, entitled "An Act to reduce the revenue and equalize duties on imports, and for other purposes," the Secretary of State of the United States of America communicated to the Government of Spain the action of the Congress of the United States of America, with a view to secure reciprocal trade, in declaring the articles enumerated in said section 3, to wit, sugars, molasses, coffee and hides, to be exempt from duty upon their importation into the United States of America;

And whereas the Envoy Extraordinary and Minister Plenipotentiary of Spain at Washington has communicated to the Secretary of State the fact that, in reciprocity and compensation for the admission into the United States of America free of all duty of the articles enumerated in section 3 of said act, the Government of Spain will, by due legal enactment, and as a provisional measure, admit, from and after September 1, 1891, into all the established ports of entry of the Spanish islands of Cuba and Porto Rico, the articles or merchandise named in the following Transitory Schedule, on the terms stated therein, provided that the same be the product or manufacture of the United States and proceed directly from the ports of said States:

TRANSITORY SCHEDULE.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico free of duties:

1. Meats, in brine, salted or smoked, bacon, hams, and meats preserved in cans, in lard or by extraction of air; jerked beef excepted.

2. Lard.

3. Tallow and other animal greases, melted or crude, unmanufactured.

4. Fish and shellfish, live, fresh, dried, in brine, smoked, pickled ; oysters and salmon in cans.

5. Oats, barley, rye and buckwheat and flour of these cereals.

6. Starch, maizena and other alimentary products of corn, except corn meal.

7. Cotton seed, oil and meal cake of said seed for cattle.

8. Hay, straw for forage and bran.

9. Fruits, fresh, dried and preserved, except raisins.

10. Vegetables and garden products, fresh and dried.

11. Resin of pine, tar, pitch and turpentine.

12. Woods of all kinds, in trunks or logs, joists, rafters, planks, beams, boards, round or cylindric masts, although cut, planed and tongued and grooved, including flooring.

13. Woods for cooperage, including staves, headings and wooden hoops.

14. Wooden boxes, mounted or unmounted, except of cedar.

15. Woods, ordinary, manufactured into doors, frames, windows and shutters, without paint or varnish, and wooden houses, unmounted, without paint or varnish.

16. Wagons and carts for ordinary roads and agriculture.

17. Sewing machines.

18. Petroleum, raw or unrefined, according to the classification fixed in the existing orders for the importation of this article in said islands.

19. Coal, mineral.

20. Ice.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico on payment of the duties stated :

21. Corn or maize, 25 cents per 100 kilogrammes.

22. Corn meal, 25 cents per 100 kilogrammes.

23. Wheat, from January 1, 1892, 30 cents per 100 kilogrammes.

24. Wheat-flour, from January 1, 1892, $1 per 100 kilogrammes.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico at a reduction of duty of 25 per centum:

25. Butter and cheese.

26. Petroleum, refined.

27. Boots and shoes in whole or in part of leather or skins.

And whereas the Envoy Extraordinary and Minister Plenipotentiary of Spain in Washington has further communicated to the Secretary of State that the Government of Spain will, in like manner and as a definitive arrangement, admit, from and after July 1, 1892, into all the established ports of entry of the Spanish islands of Cuba and Porto Rico, the articles or merchandise named in the following schedules A, B, C, and D, on the terms stated therein, provided that the same be the product or manufacture of the United States and proceed directly from the ports of said States:

SCHEDULE A.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico free of duties:

1. Marble, jasper and alabaster natural or artificial, in rough or in pieces, dressed, squared and prepared for taking shape.

2. Other stones and earthy matters, including cement, employed in building, the arts and industries.

3. Waters, mineral or medicinal.

4. Ice.

5. Coal, mineral.

6. Resin, tar, pitch, turpentine, asphalt, schist and bitumen.

7. Petroleum, raw or crude, in accordance with the classification fixed in the tariff of said islands.

8. Clay, ordinary, in paving tiles large and small, bricks, and roof tiles unglazed, for the construction of buildings, ovens and other similar purposes.

9. Gold and silver coin.

10. Iron, cast in pigs, and old iron and steel.

11. Iron, cast, in pipes, beams, rafters and similar articles, for the construction of buildings, and in ordinary manufactures. (See repertory.)

12. Iron, wrought, and steel, in bars, rails and bars of all kinds, plates, beams, rafters, and other similar articles for construction of buildings.

13. Iron, wrought, and steel, in wire, nails, screws, nuts, and pipes.

14. Iron, wrought, and steel, in ordinary manufactures and wire cloth unmanufactured. (See repertory.)

15. Cotton, raw, with or without seed.

16. Cotton seed, oil and meal cake of same for cattle.

17. Tallow and all other animal greases, melted or crude, unmanufactured.

18. Books and pamphlets, printed, bound and unbound.

19. Woods of all kinds, in trunks or logs, joists, rafters, planks, beams, boards and round or cylindric masts, although cut, planed, tongued and grooved, including flooring.

20. Wooden cooperage, including staves, headings and wooden hoops.

21. Wooden boxes, mounted or unmounted, except of cedar.

22. Woods, ordinary, manufactured into doors, frames, windows and shutters, without paint or varnish, and wooden houses, unmounted, without paint or varnish.

23. Woods, ordinary, manufactured into all kinds of articles turned or unturned, painted or varnished, except furniture. (See repertory.)

24. Manures, natural or artificial.

25. Implements, utensils and tools for agriculture, the arts and mechanical trades.

26. Machines and apparatus, agricultural, motive, industrial and scientific, of all classes and materials, and loose pieces

for the same, including wagons, carts and handcarts for ordinary roads and agriculture.

27. Material and articles for public works, such as railroads, tramways, roads, canals for irrigation and navigation, use of waters, ports, lighthouses, and civil construction of general utility, when introduced by authorization of the Government, or if free admission is obtained in accordance with local laws.

28. Materials of all classes for the construction, repair in whole or in part of vessels; subject to specific regulations to avoid abuse in the importation.

29. Meats, in brine, salted and smoked, including bacon, hams, and meats preserved in cans, in lard or by extraction of air; jerked beef excepted.

30. Lard and butter.

31. Cheese.

32. Fish and shellfish, live, fresh, dried, in brine, salted, smoked and pickled; oysters and salmon in cans.

33. Oats, barley, rye and buckwheat, and flour of these cereals.

34. Starch, maizena and other alimentary products of corn, except corn meal.

35. Fruits, fresh, dried and preserved, except raisins.

36. Vegetables and garden products, fresh and dried.

37. Hay, straw for forage and bran.

38. Trees, plants, shrubs and garden seeds.

39. Tan bark.

SCHEDULE B.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico on payment of the duties stated:

40. Corn or maize, 25 cents per 100 kilogrammes.

41. Corn meal, 25 cents per 100 kilogrammes.

42. Wheat, 30 cents per 100 kilogrammes.

43. Wheat-flour, $1 per 100 kilogrammes.

44. Carriages, cars and other vehicles for railroads or tramways, where authorization of the Government for free admission has not been obtained, 1 per centum ad valorem.

SCHEDULE C.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico at a reduction of duty of 50 per centum:

45. Marble, jasper and alabaster, of all kinds, cut into flags, slabs or steps, and the same worked or carved in all kinds of articles polished or not.

46. Glass and crystal ware, plate and window glass, and the same silvered, quicksilvered and platinized.

47. Clay in tiles, large and small, and mosaic for pavements, colored tiles, roof tiles glazed and pipes.

48. Stoneware and fine earthenware, and porcelain.

49. Iron, cast, in fine manufactures or those polished, with coating of porcelain or part of other metals. (See repertory.)

50. Iron, wrought, and steel, in axles, tires, springs and wheels for carriages, rivets and their washers.

51. Iron, wrought, and steel, in fine manufactures or those polished, with coating of porcelain or part of other metals, not expressly comprised in other numbers of these schedules, and platform scales for weighing. (See repertory.)

52. Needles, pens, knives, table and carving, razors, penknives, scissors, pieces for watches and other similar articles of iron and steel.

53. Tin plate in sheets or manufactured.

54. Copper, bronze, brass and nickel, and alloys of same with common metals, in lump or bars, and all manufactures of the same.

55. All other common metals and alloys of the same, in lump or bars, and all manufactures of the same, plain, varnished, gilt, silvered or nickeled.

56. Furniture of all kinds, of wood or metal, including school furniture, blackboards and other materials for schools, and all kinds of articles of fine woods not expressly comprised in other numbers of these schedules. (See repertory.)

57. Rushes, esparto, vegetable hair, broom corn, willow, straw, palm and other similar materials, manufactured into articles of all kinds.

58. Pastes for soups, rice flour, bread and crackers, and alimentary farinas, not comprised in other numbers of these schedules.

59. Preserved alimentary substances and canned goods, not comprised in other numbers of these schedules, including sausages, stuffed meats, mustards, sauces, pickles, jams and jellies.

60. Rubber and gutta-percha, and manufactures thereof, alone or mixed with other substances (except silk), and oilcloths and tarpaulin.

61. Rice, hulled or unhulled.

SCHEDULE D.

Products or manufactures of the United States to be admitted into Cuba and Porto Rico at a reduction of duty of 25 per centum:

62. Petroleum, refined, and benzine.

63. Cotton manufactured, spun or twisted, and in goods of all kinds, woven or knit, and the same mixed with other vegetable or animal fibers in which cotton is an equal or greater component part, and clothing exclusively of cotton.

64. Rope, cordage and twine of all kinds.

65. Colors, crude and prepared, with or without oil, inks of all kinds, shoe blacking and varnishes.

66. Soap, toilet, and perfumery.

67. Medicines, proprietary or patent and all others, and drugs.

68. Stearine and tallow manufactured in candles.

69. Paper for printing, for decorating rooms, of wood or straw for wrapping and packing and bags and boxes of same, sandpaper and pasteboard.

70. Leather and skins, tanned, dressed, varnished or japanned, of all kinds, including sole leather or belting.

71. Boots and shoes in whole or in part of leather or skins.

72. Trunks, valises, traveling bags, portfolios and other similar articles in whole or in part of leather.

73. Harness and saddlery of all kinds.

74. Watches and clocks, of gold, silver or other metals, with cases of stone, wood or other material, plain or ornamented.

75. Carriages of two or four wheels and pieces of the same.

It is understood that flour which, on its exportation from the United States, has been favored with drawbacks shall not share in the foregoing reduction of duty.

The provisional arrangement as set forth in the Transitory Schedule shall come to an end on July 1, 1892, and on that date be substituted by the definitive arrangement as set forth in schedules A, B, C, and D.

And that the Government of Spain has further provided that the laws and regulations, adopted to protect its revenue and prevent fraud in the declarations and proof that the articles named in the foregoing schedules are the product or manufacture of the United States of America, shall place no undue restrictions on the importer, nor impose any additional charges or fees therefor on the articles imported.

And whereas the Secretary of State has, by my direction, given assurance to the Envoy Extraordinary and Minister Plenipotentiary of Spain at Washington that this action of the Government of Spain, in granting exemption of duties to the products and manufactures of the United States of America on their importation into Cuba and Porto Rico, is accepted for those islands as a due reciprocity for the action of Congress as set forth in section 3 of said Act:

Now, therefore, be it known that I, BENJAMIN HARRISON, President of the United States of America, have caused the above-stated modifications of the tariff laws of Cuba and Porto Rico to be made public for the information of the citizens of the United States of America.

In testimony whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington, this thirty-first day of July, one thousand eight hundred and ninety-one, and of the independence of the United States of America the one hundred and sixteenth.

[SEAL.]

BENJ. HARRISON.

By the President:
WILLIAM F. WHARTON,
Acting Secretary of State.

PRECEDING CORRESPONDENCE.

MR. BLAINE TO SEÑOR SUAREZ GUANES.

DEPARTMENT OF STATE,
Washington, January 3, 1891.

SIR: I have the honor to bring to your attention the fact that the Congress of the United States, at its last session, enacted a law, of which a copy is enclosed herewith, in which provision was made for the admission into the United States, free of all duty, of the following articles: All sugars not above No. 16 Dutch standard in color, molasses, coffee, tea, hides, and skins.

In section 3 of this law it is declared that these remissions of duty were made "with a view to secure reciprocal trade with countries producing" those articles; and it is provided that, whenever the President shall be satisfied that reciprocal favors are not granted to the products of the United States in the countries referred to, "he shall have the power and it shall be his duty" to impose upon the articles above enumerated, the products of the countries concerned, the rates of duty set forth in section 3.

The Government of the United States being earnestly desirous of maintaining with Spain and its colonies such trade relations as shall be reciprocally equal and mutually advantageous, I am directed by the President to request you to bring the above-mentioned provisions of this act of Congress to the attention of your Government, and to express the hope that you may be empowered to enter with me upon the consideration of the subject, with a view to the adjustment of the commercial relations between the two countries on a permanent basis of reciprocity profitable alike to both.

Accept, Sir, the renewed assurances of my highest consideration.

JAMES G. BLAINE.

Señor Don MIGUEL SUAREZ GUANES,
Etc., etc., etc.

SENOR SUAREZ GUANES TO MR. BLAINE.

LEGATION OF SPAIN AT WASHINGTON,
Washington, June 8, 1891.

The undersigned, Envoy Extraordinary and Minister Plenipotentiary of Spain, has the honor to inform the Honorable Secretary of State, in reply to his note of the 3d of January last, that his Government, desirous of strengthening and increasing the commercial relations between Spain and the United States of North America to the benefit of both countries, and being convinced that the community and harmony of their respective interests counsel that said relations should be stimulated and favored for the greater development and encouragement of their commerce, has decided to respond, as promptly and as fully as its national interests and international engagements permit, to the legislation of the Congress of the United States, as set forth in the note of January 3 above mentioned.

He has therefore been instructed to inform the Honorable Secretary of State that, in view of there having been decreed the free admission into the United States, from the 1st of April of the present year, of sugars, molasses, coffee, tea, and untanned hides, as a provisional measure, until a definitive arrangement between the United States and Spain shall be put in operation, and in reciprocity and compensation for the admission into the ports of the Union, free of all national, State, and municipal duties, of the products of Cuba and Porto Rico enumerated in the aforesaid note of the 3d of January last, the Government of Her Majesty is prepared to make use in part of the power granted to it by the law of the 22d of July, 1884, authorizing the admission into all the established ports of Cuba and Porto Rico, from the 1st day of September, 1891, of the articles or merchandise named in the transitory schedule annexed hereto; provided that the duties of the third column of the tariffs of the said islands, to which reference is made in said schedule, are understood to be those stated in the tariffs which are now in force, with the additiona duties authorized by laws and orders previous to this date.

The necessary condition is imposed that said merchandise shall be the product or manufacture of the United States, and proceed directly from the ports of these States in the manner stated in the annexed schedule.

As provided in the same schedule, the benefit of the reduction of duties granted to American wheat and wheat-flour, on their introduction into the ports of Cuba and Porto Rico, shall not take effect until the 1st day of January, 1892.

Flour shall be excluded from said reduction, and shall not therefore share in it, which, on its departure from the ports of the Union, destined to those of Cuba and Porto Rico, may be favored with drawbacks or other tariff advantages.

The Government of Spain gives the assurance that, during the existence of this transitory arrangement, no export or port duty, whether national or provincial, shall be imposed on the articles or merchandise exported from Cuba and Porto Rico to the United States, and which the latter nation admits free of duties.

Respecting the North American articles of food, drink, and fuel specified in the annexed transitory schedule, which are imported into said islands, the Government of Spain, without restricting the rights of the municipal councils, will seek to have the latter impose upon them no greater municipal duties than those which national products pay, and that they shall not materially increase the price of said articles.

The Spanish Government reserves the right to propose the laws and adopt the regulations necessary to protect the customs revenues in said islands, to prevent fraud and require proof of the North American nationality of the articles enumerated in the annexed schedule. These laws and regulations shall not be unduly restrictive, nor create additional charges therefor, nor impose new duties on the articles imported.

What has just been stated will convince the President that the Government of Her Majesty responds to the legislation of the Congress of the United States in a spirit of sincere friendship and reciprocity, and, in this firm conviction, it has authorized the undersigned to conclude with that of the United

States the proper executive international agreement, which shall begin to take effect on the 1st day of September, 1891, and also to agree with the Honorable Secretary of State on the day when it shall be simultaneously and officially published in both countries, with the understanding that this commercial arrangement, put in operation under the clauses above stated, shall remain in force so long as it shall not be modified by the mutual agreemeent of the Executive Power of the two countries, always reserving the respective right of the Cortes of Spain and of the Congress of the United States to modify or repeal it whenever they may think proper.

The undersigned Minister gladly improves this opportunity to reiterate to the Honorable Secretary of State the assurances of his highest consideration.

M. SUAREZ GUANES.

The Honorable JAMES G. BLAINE,
Secretary of State of the United States.

TRANSITORY SCHEDULE.

Products or manufactures of the United States proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after September 1, 1891, free of customs duties, and unloading and all other charges, whether national or provincial:

1. Meats, in brine, salted or smoked, bacon, hams, and meats preserved in cans, in lard or by extraction of air; jerked beef excepted.
2. Lard.
3. Tallow and other animal greases, melted or crude, unmanufactured.
4. Fish and shellfish, live, fresh, dried, in brine, smoked, pickled; oysters and salmon in cans.
5. Oats, barley, rye and buckwheat and flour of these cereals.
6. Starch, maizena and other alimentary products of corn, except corn meal.
7. Cotton seed, oil and meal cake of said seed for cattle.
8. Hay, straw for forage and bran.
9. Fruits, fresh, dried and preserved, except raisins.
10. Vegetables and garden products, fresh and dried.
11. Resin of pine, tar, pitch and turpentine.
12. Woods of all kinds, in trunks or logs, joists, rafters, planks, beams, boards, round or cylindric masts, although cut, planed and tongued and grooved, including flooring.
13. Woods for cooperage, including staves, headings and wooden hoops.

14. Wooden boxes, mounted or unmounted, except of cedar.

15. Woods, ordinary, manufactured into doors, frames, windows and shutters, without paint or varnish, and wooden houses, unmounted, without paint or varnish.

16. Wagons and carts for ordinary roads and agriculture.

17. Sewing machines.

18. Petroleum, raw or unrefined, according to the classification fixed in the existing orders for the importation of this article in said islands.

19. Coal, mineral.

20. Ice.

Products or manufactures of the United States, proceeding from the ports of said States, to be admitted into Cuba and Porto Rico, on and after September 1, 1891 (with the exceptions stated), on payment of the customs duties stated, being exempt from the unloading and all other charges, whether national or provincial:

21. Corn or maize, 25 cents per 100 kilogrammes.

22. Corn meal, 25 cents per 100 kilogrammes.

23. Wheat, from January 1, 1892, 30 cents per 100 kilogrammes.

24. Wheat-flour, from January 1, 1892, $1 per 100 kilogrammes.

It is to be understood that the packages or coverings in which the articles named in the two foregoing schedules are imported shall enter free of duty if they are usual and proper for the purpose.

Products or manufactures of the United States, proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after September 1, 1891, at a reduction of 25 per centum of the duty fixed on each article in the third column of the customs tariff of said islands, or in the column in force in case said third column shall be substituted by another, which reduction shall be likewise applied to the unloading and all other duties which are imposed for the benefit of the nation or provinces on imported goods:

25. Butter and cheese.

26. Petroleum, refined.

27. Boots and shoes in whole or in part of leather or skins.

It is agreed that the duties of the third column of the tariffs of the islands of Cuba and Porto Rico mentioned in this schedule are understood to be those stated in the tariffs now in force, with the additional duties authorized by laws and orders previous to this date.

(Signed,) FABIÉ.

WASHINGTON, *June 8, 1891.*

A true copy.

M. SUAREZ GUANES.

MR. BLAINE TO SEÑOR SUAREZ GUANES.

DEPARTMENT OF STATE,
Washington, June 10, 1891.

SIR: I have great pleasure in acknowledging the receipt of your note of the 8th instant, in which you inform me that, as a provisional measure, until a more definitive arrangement shall be put in operation, the Government of Spain, in reciprocity and compensation for the admission into the ports of the United States, free from all national, State, or municipal duties, of the products of the Spanish islands of Cuba and Porto Rico enumerated in my note of January 3 last, is prepared by due legal enactment to authorize the free or favored admission into said islands, from September 1 next, of the articles proceeding directly from, and the product or manufacture of, the United States of America, named in the schedule attached to your note; that your Government gives the assurance that no export or port tax, whether national or provincial, shall be imposed on the articles admitted free into the United States; that it will seek to have no greater municipal duties than those paid by national products imposed on the articles named in said schedule, and that said duties shall not materially increase the price of said articles; and that the laws and regulations which may be adopted by Spain to prevent fraud shall not impose any additional charges therefor on the articles named in said schedule imported from the United States.

I am directed by the President to state to you that, as a provisional measure, he accepts this action of the Government of Spain, in proposing to grant exemption of duties to the products of the United States, as a due reciprocity for the action of the Congress of the United States, as set forth in my note to you of January 3 last.

I am also pleased to reciprocate the assurance contained in your note, and to state that no export tax, whether national, State, or municipal, can or will be imposed in the United States upon the products and manufactures enumerated in the schedule attached to your note of the 8th instant.

It may be further understood that, while the Government of the United States reserves the right to adopt such laws and regulations as may be found necessary to protect the revenue and prevent fraud in the declarations and proof that the articles enumerated in my note of January 3 last, and whose free admission is provided for by the tariff law therein cited, are the product or manufacture of the islands of Cuba and Porto Rico, the laws and regulations to be adopted to that end shall place no undue restrictions on the importer nor impose any additional charges therefor upon the articles imported.

It is likewise understood that wheat-flour shall not share in the specified reduction of duties which begins to take effect January 1, 1892, which, on its exportation from the United States, may have been favored with any tariff advantages in the nature of drawbacks.

I have, therefore, to request that you will be so kind as to call at the Department of State at your early convenience to agree upon the time and manner of making public announcement of this transitory commercial arrangement, which, it is understood, shall remain in force so long as it shall not be modified by the mutual agreement of the Executive Power of the two countries, always reserving the respective right of the Congress of the United States and of the Cortes of Spain to modify or repeal said arrangement whenever they may think proper.

Accept, Sir, the renewed assurances of my highest consideration.

JAMES G. BLAINE.

Señor Don MIGUEL SUAREZ GUANES,
Etc., etc., etc.

SEÑOR SUAREZ GUANES TO MR. BLAINE.

LEGATION OF SPAIN AT WASHINGTON,
June 12, 1891.

The undersigned, Envoy Extraordinary and Minister Plenipotentiary of Spain, has the honor to inform the Honorable Secretary of State that, a transitory commercial arrangement having been agreed upon between the Government of His Majesty and that of the United States of North America, which is to go into effect on the 1st day of September, 1891, and it being the desire of both Governments that said arrangement should have a definitive character from the time when Spain shall be free from her international engagements, the Government of His Majesty, in reciprocity and compensation for the admission into the ports of the United States of America, free of all national, State, and municipal duties, of the products of Cuba and Porto Rico enumerated in the note of the Honorable Secretary of State of the 3d of January of the present year, is prepared to make full use of the power granted to it by the law of the 22d of July, 1884, authorizing the admission into all the established ports of said islands, from the 1st of July, 1892, of the articles or merchandise named in the schedules annexed to this note, designated by the letters A, B, C, and D; provided that the duties of the third column of the tariffs of the islands of Cuba and Porto Rico, to which reference is made in said schedules, are understood to be those stated in the tariffs which are now in force, with the additional duties authorized by laws and orders previous to this date.

A necessary condition is imposed that said merchandise shall be the product or manufacture of the United States, and proceed directly from the ports of the Union in the manner stated in the annexed schedules.

The Government of Spain gives the assurance that, during the existence of the arrangement, no export or port duty, whether national or provincial, shall be imposed on the articles or merchandise which are exported from Cuba and Porto Rico to the United States, and which the latter nation admits free of duties.

Respecting the North American articles of food, drink, and fuel specified in the annexed schedules which are imported into said islands, the Government of His Majesty, without restricting the rights of the municipal councils, will seek to have the latter impose upon them no greater municipal taxes than those which national products pay, and that they shall not materially increase the price of said articles.

The Government of His Majesty reserves the right to propose the laws and adopt the regulations necessary to protect the customs revenues in the islands of Cuba and Porto Rico, to prevent fraud and require proof of the North American nationality of the articles enumerated in the annexed schedules. These laws shall not be unduly restrictive, nor create additional charges therefor, nor impose new duties on the articles imported.

A repertory shall be compiled to regulate the better application of the annexed schedules in the custom-houses of Cuba and Porto Rico, and as a basis for the classification of articles the repertory attached to the unratified treaty of October 18, 1884, shall be taken with such modifications as the present schedules require.

Flour which, on its departure from the ports of the Union for those of Cuba and Porto Rico, is favored with drawbacks or other tariff advantages is excluded from the reduction of duties conceded in the annexed schedules to American wheat and wheat-flour, and shall not share in said favor.

It is to be understood that, when this definitive commercial arrangement goes into effect, the transitory one shall terminate and be of no further force.

The definitive arrangement thus put in operation shall remain in force so long as it shall not be modified by the mutual agreement of the Executive Power of the two countries, always reserving the respective right of the Cortes of Spain and of the Congress of the United States to modify or repeal said arrangement whenever they may think proper.

The Governments of the two nations shall fix the day when this definitive arrangement shall be simultaneously and officially published in both countries.

In proposing in the name of his Government the project of the definitive commercial arrangement in the terms which he has just transcribed, it remains for the undersigned to comply with the special instruction which his Government has likewise given him, to submit to the consideration of the Honorable Secretary of State the serious injuries which have been occasioned to the tobacco production in the islands of Cuba and Porto Rico, in consequence of the increase of duties imposed on said article by the new tariff law of the United

States, cherishing the hope that, while it may not be possible to diminish them at once in the present arrangement, because the President of the Union has not the power to do so, the latter will exercise his constitutional powers in order to recommend to Congress the said reduction of duties on the tobacco of Cuba and Porto Rico.

These measures will duly complete the friendly character of the commercial relations between the two countries, for which purpose the Spanish Government has not hesitated to facilitate, as far as was within its power, the negotiation of the present reciprocity arrangement.

The undersigned Minister hopes, therefore, that the President will comply with these proper desires of the Government of His Majesty, and that the Secretary of State will respond to the same in a separate note, if possible, at the time he replies to the proposition for the arrangement contained in the present note, and he gladly improves this opportunity to repeat the assurances of his highest consideration.

(Signed,) M. SUAREZ GUANES.

To the Honorable JAMES G. BLAINE,
Secretary of State of the United States of America.

SCHEDULE A.

Products or manufactures of the United States proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after July 1, 1892, free of customs duties, and unloading and all other charges, whether national or provincial:

1. Marble, jasper and alabaster natural or artificial, in rough or in pieces, dressed, squared and prepared for taking shape.

2. Other stones and earthy matters, including cement, employed in building, the arts and industries.

3. Waters, mineral or medicinal.

4. Ice.

5. Coal, mineral.

6. Resin, tar, pitch, turpentine, asphalt, schist and bitumen.

7. Petroleum, raw or crude, in accordance with the classification fixed in the tariff of said islands.

8. Clay, ordinary, in paving tiles large and small, bricks and roof tiles unglazed, for the construction of buildings, ovens and other similar purposes.

9. Gold and silver coin.

10. Iron, cast in pigs, and old iron and steel.

11. Iron, cast, in pipes, beams, rafters and similar articles, for the construction of buildings, and in ordinary manufactures. (See repertory.)

12. Iron, wrought, and steel, in bars, rails and bars of all kinds, plates, beams, rafters, and other similar articles for construction of buildings.

13. Iron, wrought, and steel, in wire, nails, screws, nuts, and pipes.

14. Iron, wrought, and steel, in ordinary manufactures and wire cloth unmanufactured. (See repertory.)

15. Cotton, raw, with or without seed.

16. Cotton seed, oil and meal cake of same for cattle.

17. Tallow and all other animal greases, melted or crude, unmanufactured.

18. Books and pamphlets, printed, bound and unbound.

19. Woods of all kinds, in trunks or logs, joists, rafters, planks, beams, boards and round or cylindric masts, although cut, planed, tongued and grooved, including flooring.

20. Wooden cooperage, including staves, headings and wooden hoops.

21. Wooden boxes, mounted or unmounted, except of cedar.

22. Woods, ordinary, manufactured into doors, frames, windows and shutters, without paint or varnish, and wooden houses, unmounted, without paint or varnish.

23. Woods, ordinary, manufactured into all kinds of articles turned or unturned, painted or varnished, except furniture. (See repertory.)

24. Manures, natural or artificial.

25. Implements, utensils and tools for agriculture, the arts and mechanical trades.

26. Machines and apparatus, agricultural, motive, industrial and scientific, of all classes and materials, and loose pieces for the same, including wagons, carts and handcarts for ordinary roads and agriculture.

27. Material and articles for public works, such as railroads, tramways, roads, canals for irrigation and navigation, use of waters, ports, lighthouses, and civil construction of general utility, when introduced by authorization of the Government, or if free admission is obtained in accordance with local laws.

28. Materials of all classes for the construction, repair in whole or in part of vessels, subject to specific regulations to avoid abuse in the importation.

29. Meats, in brine, salted and smoked, including bacon, hams, and meats preserved in cans, in lard or by extraction of air; jerked beef excepted.

30. Lard and butter.

31. Cheese.

32. Fish and shellfish, live, fresh, dried, in brine, salted, smoked and pickled; oysters and salmon in cans.

33. Oats, barley, rye and buckwheat, and flour of these cereals.

34. Starch, maizena and other alimentary products of corn, except corn meal.

35. Fruits, fresh, dried and preserved, except raisins.

36. Vegetables and garden products, fresh and dried.

37. Hay, straw for forage and bran.
38. Trees, plants, shrubs and garden seeds.
39. Tan bark.

(Signed,) FABIÉ.

WASHINGTON, *June 12, 1891.*

A true copy.

M. SUAREZ GUANES.

SCHEDULE B.

Products or manufactures of the United States proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after July 1, 1892, on payment of the customs duties stated, being exempt from the unloading and all other charges, whether national or provincial:

40. Corn or maize, 25 cents per 100 kilogrammes.
41. Corn meal, 25 cents per 100 kilogrammes.
42. Wheat, 30 cents per 100 kilogrammes.
43. Wheat-flour, $1 per 100 kilogrammes.
44. Carriages, cars and other vehicles for railroads or tramways, where authorization of the Government for free admission has not been obtained, 1 per centum ad valorem.

It is to be understood that the packages or coverings in which the articles named in the foregoing schedules, A and B, are imported shall be free of duty if they are usual and proper for the purpose.

(Signed,) FABIÉ.

WASHINGTON, *June 12, 1891.*

A true copy.

M. SUAREZ GUANES.

SCHEDULE C.

Products or manufactures of the United States proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after July 1, 1892, at a reduction of 50 per centum of the duty fixed on each article in the third column of the customs tariff of the said islands or in the column in force, in case said third column shall be substituted by another, which reduction shall be likewise applied to the unloading and all other duties which are imposed for the benefit of the nation or provinces on imported goods:

45. Marble, jasper and alabaster, of all kinds, cut into flags, slabs or steps, and the same worked or carved in all kinds of articles polished or not.

46. Glass and crystal ware, plate and window glass, and the same silvered, quicksilvered and platinized.

47. Clay in tiles, large and small, and mosaic for pavements, colored tiles, roof tiles glazed and pipes.

48. Stoneware and fine earthenware, and porcelain.

49. Iron, cast, in fine manufactures or those polished, with coating of porcelain or part of other metals. (See repertory.)

50. Iron, wrought, and steel, in axles, tires, springs and wheels for carriages, rivets and their washers.

51. Iron, wrought, and steel, in fine manufactures or those polished, with coating of porcelain or part of other metals, not expressly comprised in other numbers of these schedules, and platform scales for weighing. (See repertory.)

52. Needles, pens, knives, table and carving, razors, penknives, scissors, pieces for watches and other similar articles of iron and steel.

53. Tin plate in sheets or manufactured.

54. Copper, bronze, brass and nickel, and alloys of same with common metals, in lump or bars, and all manufactures of the same.

55. All other common metals and alloys of the same, in lump or bars, and all manufactures of the same, plain, varnished, gilt, silvered or nickeled.

56. Furniture of all kinds, of wood or metal, including school furniture, blackboards and other materials for schools, and all kinds of articles of fine woods not expressly comprised in other numbers of these schedules. (See repertory.)

57. Rushes, esparto, vegetable hair, broom corn, willow, straw, palm, and other similar materials, manufactured into articles of all kinds.

58. Pastes for soups, rice flour, bread and crackers, and alimentary farinas, not comprised in other numbers of these schedules.

59. Preserved alimentary substances and canned goods, not comprised in other numbers of these schedules, including sausages, stuffed meats, mustards, sauces, pickles, jams and jellies.

60. Rubber and gutta-percha, and manufactures thereof, alone or mixed with other substances (except silk), and oilcloths and tarpaulin.

61. Rice, hulled or unhulled.

It is agreed that the duties of the third column of the tariffs of the islands of Cuba and Porto Rico mentioned in this schedule are understood to be those stated in the tariffs now in force, with the additional duties authorized by laws and orders previous to this date.

(Signed,) FABIÉ.

WASHINGTON, *June 12, 1891.*

A true copy.

M. SUAREZ GUANES.

SCHEDULE D.

Products or manufactures of the United States proceeding from the ports of said States to be admitted into Cuba and Porto Rico, on and after July 1, 1892, at a reduction of 25 per centum of the duty fixed on the respective article in the third column of the customs tariff of said islands or in the column in force, in case said third column shall be substituted by another, which reduction shall be likewise applied to the unloading and all other duties which are imposed for the benefit of the nation or provinces on imported goods:

62. Petroleum, refined, and benzine.

63. Cotton manufactured, spun or twisted, and in goods of all kinds, woven or knit, and the same mixed with other vegetables or animal fibers in which cotton is an equal or greater component part, and clothing exclusively of cotton.

64. Rope, cordage, and twine of all kinds.

65. Colors, crude and prepared, with or without oil, inks of all kinds, shoe blacking and varnishes.

66. Soap, toilet, and perfumery.

67. Medicines, proprietary or patent and all others, and drugs.

68. Stearine and tallow manufactured in candles.

69. Paper for printing, for decorating rooms, of wood or straw for wrapping and packing, and bags and boxes of same, sandpaper and pasteboard.

70. Leather and skins, tanned, dressed, varnished or japanned, of all kinds, including sole leather or belting.

71. Boots and shoes in whole or in part of leather or skins.

72. Trunks, valises, traveling bags, portfolios and other similar articles in whole or in part of leather.

73. Harness and saddlery of all kinds.

74. Watches and clocks, of gold, silver or other metals, with cases of stone, wood, or other material, plain or ornamented.

75. Carriages of two or four wheels and pieces of the same.

It is agreed that the duties of the third column of the tariffs of the islands of Cuba and Porto Rico mentioned in this schedule are understood to be those stated in the tariffs now in force, with the additional duties authorized by laws and orders previous to this date.

(Signed,) FABIÉ.

WASHINGTON, *June 12, 1891.*

A true copy.

M. SUAREZ GUANES.

MR. BLAINE TO SEÑOR SUAREZ GUANES.

DEPARTMENT OF STATE,
Washington, June 16, 1891.

SIR: Having already had the honor to enter with you upon a transitory commercial arrangement between the United States and the islands of Cuba and Porto Rico, to go into effect September 1 next, I now have the pleasure to acknowledge the receipt of your note of the 12th instant, in which you inform me that, with the object of giving a definitive character to said commercial arrangement, the Government of Spain, in reciprocity and compensation for the admission into the ports of the United States of America, free from all national, State, and municipal duties, of the products of Cuba and Porto Rico enumerated in my note of January 3 last, is prepared by due legal enactment to authorize the admission into said islands, from July 1, 1892, of the articles or merchandise named in the schedules annexed to your note of the 12th instant, on the conditions stated in said note and schedules; that your Government gives the assurance that no export or port tax, whether national or provincial, shall be imposed on the articles admitted free into the United States; that it will seek to have no greater municipal duties than those paid by national products imposed on the articles named in said schedules, and that said duties shall not materially increase the price of said articles; and that the laws and regulations which may be adopted by Spain to prevent fraud shall not impose any additional charges therefor on the articles named in said schedules imported from the United States.

I am directed by the President to state that he accepts this action of the Government of Spain, in proposing to grant exemption of duties to the products of the United States, as a due reciprocity for the action of the Congress of the United States, as set forth in my note to you of January 3d last.

I am also pleased to reciprocate the assurance contained in your note, and to state that no export tax, whether national, State, or municipal, can or will be imposed in the United States upon the products and manufactures enumerated in the schedules attached to your note of the 12th instant.

It may be further understood that, while the Government of the United States reserves the right to adopt such laws and regulations as may be found necessary to protect the revenue and prevent fraud in the declarations and proof that the articles enumerated in my note of January 3 last, and whose free admission is provided for by the tariff law therein cited, are the product or manufacture of the islands of Cuba and Porto Rico, the laws and regulations to be adopted to that end shall place no undue restrictions on the importer, nor impose any additional charges therefor upon the articles imported.

It is likewise understood that wheat-flour shall not share in the reduction of duties specified in Schedule B attached to your note of the 12th instant, which, on its exportation from the United States, may have been favored with any tariff advantages in the nature of drawbacks.

It is agreed that a repertory shall be compiled before the present commercial arrangement goes into force, under the joint supervision of the Department of State and the Spanish Legation in Washington, to regulate the better application of the said schedules in the custom-houses of Cuba and Porto Rico upon the basis stated in your note.

It is also agreed that, when this definitive commercial arrangement goes into effect, the transitory arrangement to be put in operation September 1 next shall terminate and be of no further force.

I have, therefore, to request that you will call at the Department of State at your early convenience to agree upon the time and manner of making public announcement of this definitive commercial arrangement, which, it is understood, shall remain in force so long as it shall not be modified by the mutual agreement of the Executive Power of the two countries, always reserving the respective right of the Congress of the United States and of the Cortes of Spain to modify or repeal said arrangement whenever they may think proper.

In conclusion, I am directed by the President to state that the suggestion contained in your note respecting tobacco shall have his careful consideration, and that it shall be made the subject of a separate note.

I improve the opportunity to offer to you, Sir, the renewed assurances of my highest consideration.

JAMES G. BLAINE.

Señor Don MIGUEL SUAREZ GUANES,

Etc., etc., etc.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 131.—AUGUST, 1891.

COMMERCE AND INDUSTRIES OF AUSTRIA-HUNGARY.

REPORT BY CONSUL-GENERAL GOLDSCHMIDT, OF VIENNA.

In obedience to instructions, the undersigned begs to submit the annual report on the agriculture, industries, and commerce of Austria-Hungary for the year 1889 and such portions of 1890 for which it has been found possible to procure reliable statistical data.

GOVERNMENT AND PEOPLE.

The Empire of Austria-Hungary is a bipartite state composed of the Empire of Austria, or Cisleithania, and the Kingdom of Hungary, or Transleithania, each having its own parliament and relative independence of legislation.

By the State compromise of 1867 the Monarchy was divided into two parts with equal rights—the Empire of Austria (Cisleithania) and Kingdom of Hungary (Transleithania)—which have common interests and administration only in the representation of the Monarchy abroad and in the army and navy. All other branches of administration and legislation are carried on by the two parts of the realm entirely and strictly independent of each other.

The occupied provinces of Bosnia and Herzegovina have their own military administration, those territories being occupied according to the treaty of Berlin (1878).

The Empire of Austria embraces within its borders the following seventeen crown lands: (1) Archduchy of Austria below the Enns, (2) archduchy of Austria above the Enns, (3) duchy of Salzburg, (4) duchy of Styria, (5) duchy of Carinthia, (6) duchy of Carniola, (7) city of Trieste and its domain, (8) margraviate of Göritz and Gradiska, (9) margraviate of Istria, (10) margraviate of Tyrol, (11) dependency of Vorarlberg, (12) Kingdom of Bohemia, (13) margraviate of Moravia, (14) duchy of Silesia, (15) Kingdom of Galicia, (16) Kingdom of Dalmatia, (17) duchy of Bukowina.

Austria is the home of a conglomeration of separate races and nationalities. Its 22,000,000 inhabitants speak the following languages, besides various idioms: German, Czech, Polish, Ruthenian, Slavonian, Italian, Croatian, and Hungarian.

These numerous heterogeneous elements have, of course, their own habits, traditions, and ambitions, but lack the national unity which characterizes other countries or nations composed of elements speaking the same language and belonging to the same race.

However, all Austrians unite in enthusiasm for the reigning house of Hapsburg and fidelity to the Crown; but among the different nationalities there is constant warfare. The two most powerful factions, the Germans and Bohemians, are waging war with a determination and vigor which shakes the Empire to its very foundation. It requires more than ordinary statesmanship to satisfy the demands of the Czechs, who bitterly hate the Germans, and who are striving to obtain predominance in the Empire, and are dreaming of a kingdom with the Emperor as their crowned king. The Germans, on the other hand, are acting moderately, wisely, and in harmony with the Government.

While in Bohemia the principle is contested whether the predomination of the German character of hundreds of years standing shall be continued to be upheld in the administration of the State, or whether it is to be transformed into a Slavic particularistic administration, there are at the same time going on the conflicts in Styria and in Carniola, those between the Ruthenians and Poles in Galicia, and between the Germans, Slavs, and Italians in Trieste, in the coast district, and in Tyrol, which not only are continued with unabated and increasing animosity, but have led to feuds between the Czechs themselves, carried on no less bitterly than are those between the Czechs and Germans.

The majority of the Czechs repudiate the so-called "Ausgleich," *i. e.*, the amicable settlement so urgently and earnestly suggested by the Emperor and his Government. Added to these are the anti-Semitic agitations, which, creating passion and hatred, can not but be a danger and a shame to any civilized nation.

A centralization of power seems almost impossible in Austria, and to form and maintain one nation out of these heterogeneous elements is proving no light task for the ruling statesmen of Austria.

Not so in the Kingdom of Hungary, whose political and economic interests oftentimes seem to clash with those of Austria. Hungary is following a course of rigid centralization, and is trying hard to train its entire population, which is speaking several languages, to become patriotic Magyars.

In Austria we find a marked preponderance of agrarian interests, supported by the strong influence enjoyed by the high nobility by right of constitution, in the representative bodies, the Diet and Parliament; in Hungary, the most careful fostering of the development of the cities and industries and a desire of strengthening the dominating position of the Magyar element; in Austria, tender care and favors granted the feudals and clerics, and preference shown the nobility in the appointments to the higher Government positions; in Hungary, a decidedly liberal Government, which, without regard to title or religion, grants positions to the most qualified and deserving and strives to promote liberalism and justice by honestly and conscientiously suppressing the hatred of caste, race, and religion.

The Hungarian Crown embraces the Kingdom of Hungary, the grand principality of Transylvania, the city of Fiume and its domain, and the Kingdom of Croatia and Slavonia and military boundary.

AREA AND POPULATION.

The total area of Austria is 300,024.38 square kilometres; that of Hungary, 322,285.3 square kilometres; and of Bosnia and Herzegovina, 53,677 square kilometres; making a total of 675,946.41 square kilometres, or 261,998.61 square miles.

The total population of Austria, according to the last census,* taken on December 31, 1880, was 22,144,244; that of Hungary by the same census was 15,738,468; and that of Bosnia and Herzegovina was 1,142,147; making a total population for the Empire of Austria-Hungary of 39,024,859.

The following table shows the population of the various crown lands of Austria in 1888:

Crown lands.	Population.		
	Male.	Female.	Total.
Lower Austria	1,250,774	1,341,175	2,591,949
Upper Austria	380,108	395,611	775,719
Salzburg	84,159	86,542	170,701
Styria	625,054	644,866	1,269,920
Carinthia	174,351	184,770	359,121
Carniola	238,154	261,677	499,831
Trieste and domain	74,941	82,519	157,460
Göritz and Gradiska	110,335	108,340	218,875
Istria	158,321	151,974	310,295
Tyrol	393,520	413,945	807,465
Vorarlberg	54,516	56,386	110,902
Bohemia	2,778,982	3,001,956	5,780,938
Moravia	1,053,905	1,168,465	2,222,370
Silesia	280,068	314,505	594,573
Galicia	3,158,149	3,297,736	6,455,885
Bukowina	317,537	319,816	637,353
Dalmatia	261,239	260,399	521,638
Total civil population	11,394,313	12,090,682	23,484,995
Standing army	158,693	....	158,693
Reserve army	3,730	....	3,730
Grand total	11,556,736	12,090,682	23,647,418

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* The Austro-Hungarian census of December 31, 1890, will be shortly published.

The population of Hungary in 1887 was computed at 17,080,000.

It is worthy of remark that the total area of the Austro-Hungarian Monarchy, including the occupied Turkish provinces of Bosnia and Herzegovina, is, next to Russia, the largest country of Europe; but it is only third in population, the Empires of Russia and Germany numbering more inhabitants. The area of Austria-Hungary is 13,000 square miles less than that of Texas.

RESOURCES AND TRADE.

Austria-Hungary is a country of great resources. Her soil is rich and yields large crops; her mines produce large quantities of iron, coal, salt, and precious metals. Her manufactures and industries, however, like those of all the civilized world, suffer from overproduction, and her products hang heavily upon the market, as there can not be found consumers enough to dispose of them. The restricted interchange of goods between the different nations of the European continent and the protective tariff of our own country contribute to prevent the free development of the trade of this Empire, which largely depends upon export. Competition, too, has become a great factor herein. Although the volume of trade has not decreased, profits, in general, have dwindled, and business is not in a satisfactory condition. Taxes are high, and the expense of keeping the present active military force of 2,000,000 men, costing over 130,000,000 florins annually, is heavy, and trade and manufactures feel the burden.

England invades the eastern markets heretofore tributary to Austria, in order to make up for her decrease of export to the United States. Public opinion is greatly agitated by the effect which our new tariff law has had on one particular branch of industry—the pearl-button trade—although a great part of the business in that line will eventually be regained in spite of the high tariff.

The monetary complication with which Austria-Hungary is threatened, in consequence of the silver policy of the United States, should induce the Government to take prompt action with regard to the settlement of the money question, and to do away with its fluctuating currency, which hampers export business to a great extent. Negotiations are now pending between the secretaries of finance of the two countries.

Austria-Hungary and Germany are at present deliberating with regard to a tariff treaty, without France participating. It seems to be a very difficult task, Germany having conceded to France by the Frankfort treaty the perpetual right of the most favored nation. An Austro-German-Italian customs union appears to be in view, and, within that union, commercial confederacy, and a prohibitive tariff for all countries outside of it.

UNITED STATES CONSULAR DISTRICTS.

Prague and Reichenberg.—These consular districts comprise the Kingdom of Bohemia, covering an area of 51,956 square kilometres. The Kingdom is possessed of a fertile soil yielding fair, average crops, and of rich mines producing immense quantities of coal and iron. The character of the population, however, is essentially industrial, and the wares manufactured there find their way to every chief market of the world. The value of the articles exported to the United States during the year 1889–'90 was, for the consular district of Prague, $6,251,455; for the consular district of Reichenberg, $1,086,017. These exports consisted chiefly of the following articles:

Articles.	Prague.	Reichenberg.
Beet-root sugar	$3,584,508	....
Porcelain and pottery	637,561	$51,669
Glassware	375,744	466,126
Buttons	207,129	125,588
Gloves	166,299	....
Linen and cotton goods	180,525	110,609
Silks and velvets	136,397	....
Bed feathers	116,415	....
Cloth and woolen goods	103,090	14,240
Pulp	99,992	....
Fancy goods and jewelry	36,588	294,740

Buda-Pesth.—The consular district of Buda-Pesth comprises the whole of Hungary, with the exception of Fiume, and is almost exclusively an agricultural state. Although every effort is being made on the part of the Hungarian Government to foster trade and industries, the latter are still in the very beginning of their struggle for existence. The value of the goods exported from this consular district to the United States in the year 1889–'90 was $535,095, of which the chief articles were as follows:

Articles.	Value.	Articles.	Value.
Beans and lentils	$126,515	Tartar, crude	$15,110
Fruits, dried	124,023	Glassware	13,324
Mineral waters	92,528	Argols	11,178
Wines and liquors	77,173	Herbs, roots, and leaves	7,861
Brushes and bristles	22,696	Leather and skins	4,487
Porcelain and pottery	19,175	Baskets and basket ware	2,416

None of the other articles exported to the United States reached the sum of $1,000.

Trieste.—This consular district, which, in spite of all the efforts made during the last two decades, could not make any progress, will shortly cease to be a free port of entry, as the Government has placed a bill before the Parliament by which it is contemplated to combine Trieste with the customs district of Austria-Hungary by the 1st of July. It is thought that by the granting of certain concessions, in the form of differential duties less than those of the general tariff on wares entering or leaving Trieste, the traffic of the only seaport of Austria will become more prosperous. Trieste is situated off the great sea road leading from the west to the Indian Ocean by way of the Suez Canal. There are no steam lines connecting it with the United

States. Hitherto every increase of traffic at Fiume meant a loss to that of Trieste. The total value of the goods exported from Trieste to the United States during 1889–'90 was $1,795,919. The chief articles and their value were as follows: Dried fruits, $1,220,262; insect powder and flowers, $125,830; beans and lentils, $107,496; gum, $105,942; leather and skins, $51,170; herbs, roots, and leaves, $39,287; and oils and paints, $21,438.

Vienna.—Vienna, the capital of Austria, is the third city in size on the continent of Europe.* Great hopes of a revival of the trade and commerce are attached to a new law recently passed, which creates one large commonwealth by uniting Vienna and its suburbs, that is to say, the octroi line which separated Vienna from its suburbs will now encircle both the city and its suburbs, and both will be placed under one common municipal government. There is no doubt that trades and industries will profit greatly by that measure, as new buildings will spring up, and a city railroad will connect the suburbs with the city and facilitate communication. The total export from Vienna to the United States in 1889–'90 represented the sum of $4,688,738, the chief articles and their values being buttons, $1,786,651; linen and cotton, $675,391; silks and velvets, $275,636; fans, $227,320; smokers' articles, $168,131; argols, $130,207; cloth and woolen goods, $158,697; furniture, $111,899; pulps, $105,791; fancy goods and jewelry, $127,964; glassware, $98,854; leather and skins, $96,984; beans and lentils, $70,277; metal ware, $68,139; meerschaum (crude), $64,342; umbrella fixtures, $62,718.

AUSTRO-HUNGARIAN AGRICULTURE.

The total area under cultivation for the four principal kinds of grain (wheat, rye, barley, and oats) in Austria-Hungary in 1889 and 1890 is officially reported at 12,533,654 hectares†—6,137,625 in Austria and 6,396,029 in Hungary—divided for the principal grains in the two realms as follows:

Table showing the acreage under crops in Austria-Hungary.

Grain.	Austria.	Hungary.	Total.
	Hectares.	*Hectares.*	*Hectares.*
Wheat	1,174,024	3,032,632	4,206,656
Rye	1,973,292	1,185,182	3,158,474
Barley	1,109,824	1,048,842	2,158,666
Oats	1,180,485	1,129,373	3,009,858
Total	6,137,625	6,396,029	12,533,654

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* Her industries are touched upon under the head of "trade and industries."

† 1 hectare=2.471 acres.

The total yield of the chief grain crops for 1889 amounted to 133,473,339 metre centners (1 metre cenner=221⅕ pounds), representing a value of 551,591,789 florins, distributed as follows:

Table showing the Austro-Hungarian crop product.

Grain.	Austria.*		Hungary.	
	Quantity.	Value.	Quantity.	Value.
	Metre cent.	*Florins.*	*Metre cent.*	*Florins.*
Wheat	10,197,920	43,801,500	25,235,886	197,397,468
Rye	17,557,080	67,728,000	10,692,703	67,010,907
Barley	10,343,990	45,731,200	7,695,855	49,681,653
Oats	12,713,650	47,061,300	6,718,835	37,179,759
Total	50,812,640	204,322,000	50,343,279	351,269,786

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* From the official reports of the agricultural ministry for Austria, which comprise the following crown lands: Bohemia, West Galicia, Upper Austria, Salzburg, Carinthia, Carniola, South Tyrol, Görits and Gradiska, and Istria.

CROP PRODUCTS OF AUSTRIA.

Table showing the area for the different crops in the several crown lands in 1889.

Products.	Moravia.	Silesia.	Galicia.		Bukowina.
			West.	East.	
	Hectares.	*Hectares.*	*Hectares.*	*Hectares.*	*Hectares.*
Wheat	103,602	15,548	138,400	254,234	18,979
Rye	247,884	50,791	208,880	385,811	36,067
Barley	170,152	26,618	125,953	249,985	37,810
Oats	213,829	57,667	251,384	448,177	46,135
Maize	9,484	....	....	107,391	78,085
Millet	7,880	....	4,291	26,843	1,665
Beans, peas, and lentils	32,235	4,570	28,412	112,478	3,745
Maslin	1,476	....	....	....	....
Buckwheat	2,858	885	8,638	91,422	5,316
Rape	3,207	888	3,961	7,034	248
Poppy	1,858	....	....	....	....
Anise and fennel	424	....	....	....	675
Flax	13,274	1,832	12,119	14,458	1,248
Hemp	1,151	....	5,292	30,685	5,119
Tobacco	....	....	....	1,791	294
Potatoes	162,545	38,206	146,393	252,012	20,964
Beets:					
Sugar	69,660	4,117	4,685	....	....
Fodder	17,717	1,918	19,001	12,534	510
Cabbage	7,285	1,414	14,917	19,161	69
Pumpkins	....	....	....	....	1,376
Nursery plants and green vegetables	2,453	....	....	....	....
Hay, clover	78,622	40,720	124,784	94,271	11,394
Clover seed	5,150	988	4,620	10,399	645
Vetch mixture, etc	15,709	2,995	23,582	58,661	....
Fallows	55,398	5,690	81,119	433,165	18,652
Meadows (proper)	155,362	30,127	179,677	465,138	132,55
Hops	291	....	217	1,402	....
Vineyards	12,134	....	....	....	36

Table showing the area for the different crops in the several crown lands in 1889—Continued.

Products.	Lower Austria.	Upper Austria.	Salzburg.	Styria.	Carinthia.
	Hectares.	*Hectares.*	*Hectares.*	*Hectares.*	*Hectares.*
Wheat	88,496	52,048	7,576	62,093	15,910
Rye	196,373	95,938	11,111	76,290	29,825
Barley	54,980	42,836	1,714	15,587	10,377
Oats	185,345	80,081	9,203	76,132	26,231
Maize	10,705			37,583	7,889
Millet				9,018	2,237
Beans, peas, and lentils	5,449	205	304	12,450	3,388
Maslin		14,083			826
Buckwheat:					
First crop	3,442	13		140	318
Second crop		118		52,065	14,300
Rape	420	2,090		540	
Poppy	207				
Flax	1,813	4,307	396	8,700	1,511
Hemp		584	64	1,309	695
Chicory	178				
Potatoes	50,888	16,355	878	23,897	7,823
Beets:					
Sugar	2,578				
Fodder—					
First crop	23,714	2,478	80	2,002	350
Second crop		5,752	167	29,445	6,492
Cabbage:					
First crop	6,043	3,931	615	5,346	795
Second crop		640			
Pumpkins				2,604	
Nursery plants and green vegetables	500			935	
Hay, clover	66,055	58,901	2,921	32,717	15,376
Clover seed:					
First crop		126	139	787	
Second crop	3,604	1,735		4,909	1,252
Vetch mixture, etc.:					
First crop	8,431	1,355		878	608
Second crop		2,006		3,904	1,505
Orchards	6,912	6,759	27,741	50,954	7,379
Fallows	147,911	37,954	2,879	1,451	11
Meadows (proper)	229,886	222,251	59,531	266,978	105,129
Hops		676		1,626	10
Vineyards	39,713			34,056	54

Table showing the area for the different crops in the several crown lands in 1889—Continued.

Products.	Carniola.	Tyrol.		Vorarlberg.	Bohemia.
		North.	South.		
	Hectares.	*Hectares.*	*Hectares.*	*Hectares.*	*Hectares.*
Wheat	20,950	6,652	9,867	611	244,355
Spelt	....	....	....	847	....
Rye	17,288	13,064	13,183	283	568,939
Barley	15,141	6,039	3,660	474	344,066
Oats	18,757	4,891	1,740	550	448,665
Maize:					
First crop	15,223	3,152	17,035	1,766	....
Second crop	....	....	3,245	....	....
Millet	11,178	....	8	....	628
Beans, peas, and lentils	3,205	1,364	1,173	....	58,273
Maslin	....	....	206	....	....
Buckwheat:					
First crop	846	....	72	....	....
Second crop	21,890	1,327	6,600	....	....
Rape	....	....	....	....	18,316
Poppy	....	....	12	....	2,011
Flax	1,608	2,138	327	15	28,510
Hemp	533	21	258	56	81
Chicory	....	....	....	....	1,758
Tobacco	....	....	446	....	....
Potatoes	22,283	4,562	5,943	2,480	335,756
Beets:					
Sugar	....	....	....	....	144,406
Fodder—					
First crop	456	....	17	240	19,869
Second crop	13,420	2,517	3,045	....	....
Cabbage	2,320	266	586	156	12,690
Nursery plants and green vegetables	259	....	503	....	2,209
Hay (clover):					
First crop	16,995	1,925	2,291	83	266,515
Second crop	....	....	2,217	....	....
Clover seed:					
First crop	....	....	....	....	474
Second crop	1,212	....	....	....	12,476
Vetch mixture, etc.:					
First crop	341	....	....	....	49,270
Second crop	....	[illegible]	....	....	....
Orchards	....	35,282	55	....	....
Fallows	....	....	4	97	78,314
Meadows:					
Proper	171,200	86,374	70,224	35,973	522,014
Alpine	....	80,875	53,180	....	....
Hops	....	....	....	....	10,200
Vineyards	11,631	262	16,577	244	858
Chestnuts	....	....	890	....	....
Olive land	....	....	256	....	....
Mulberry trees	....	....	5,345	....	....

Table showing the area for the different crops in the several crown lands in 1889—Continued.

Products.	Göritz and Gradiska.	Trieste.	Istria.	Dalmatia.	Total.
	Hectares.	*Hectares.*	*Hectares.*	*Hectares.*	*Hectares.*
Wheat	11,809	116	16,400	26,810	1,094,456
Spelt	500	4	3,473	2,040	6,864
Rye	1,529	137	3,498	4,685	1,971,576
Barley	3,355	107	8,915	20,555	1,138,324
Oats	1,076	....	4,152	3,470	1,877,485
Maize:					
First crop	14,030	319	20,328	47,540	370,530
Second crop	5,464	....	926	1,730	11,365
Millet:					
First crop	106	....	....	6,730	70,584
Second crop	....	....	730	....	730
Sorghum	260	....	2,383	1,370	4,013
Beans, peas, and lentils	1,141	37	1,253	2,285	271,967
Maslin	....	....	....	4,610	21,205
Buckwheat:					
First crop	100	....	....	....	114,050
Second crop	5,511	210	807	....	102,828
Rape	79	....	....	....	37,080
Poppy	....	....	....	....	4,088
Anise and fennel	....	....	....	....	1,099
Flax	96	....	....	....	92,352
Hemp	253	....	....	....	46,101
Chicory	....	....	....	....	1,936
Tobacco	....	....	....	126	2,657
Chrysanthemum	....	....	....	1,780	1,780
Potatoes	2,690	30	2,573	3,260	1,099,538
Beets:					
Sugar	....	....	....	....	225,446
Fodder—					
First crop	....	....	....	152	101,038
Second crop	2,010	63	462	....	....
Cabbage:					
First crop	207	....	496	[illegible]	77,202
Second crop	....	....	....	....	640
Pumpkins	....	....	....	....	3,980
Nursery plants and green vegetables:					
First crop	535	....	....	1,208	8,602
Second crop	458	16	250	....	724
Hay (clover):					
First crop	1,602	17	428	185	815,802
Second crop	....	....	....	....	2,217
Clover seed:					
First crop	....	....	....	....	1,526
Second crop	70	....	45	....	....
Vetch mixture, etc.:					
First crop	760	....	....	....	162,590
Second crop	....	35	429	....	7,950
Orchards	....	....	....	....	135,082
Fallows	224	1	1,109	5,166	869,145
Meadows:					
Proper	59,824	1,129	33,823	9,872	2,837,064
Alpine	....	....	....	....	134,055
Hops	....	....	....	....	14,422
Rice	598	....	....	....	....
Vineyards	9,982	1,087	35,731	72,256	234,541
Chestnuts	262	3	250	53	1,458
Olive land	19	41	14,627	31,992	46,935
Mulberry trees	805	2	434	503	7,089

The total acreage of Austria in 1889, as reported by the department of agriculture, was 10,632,232 hectares (1 hectare=2.47 acres), which were cultivated for the several products as follows:

Table showing the acreage and crop of the chief agricultural products of Austria in 1889, as compared with 1888.

Products.	Yield.			Area.
	1889.	1888.	Increase or decrease in 1889.	
				Hectares.
Wheat .... hectolitres*	13,524,830	18,270,820	— 4,745,990	1,094,456
Rye .... do	29,944,800	28,747,410	— 3,802,610	1,971,576
Barley .... do	16,136,550	20,210,150	— 4,073,600	1,138,324
Oats .... do	28,523,880	37,080,610	— 8,556,730	1,877,485
Maize .... do	5,806,050	5,845,150	— 39,100	370,530
Spelt .... do	97,130	79,664	+ 17,466	6,864
Millet .... do	944,810	961,024	— 16,214	70,584
Peas and beans .... do	2,435,415	2,798,904	— 363,489	271,967
Maslin .... do	429,420	416,120	+ 13,300	21,205
Buckwheat .... do	1,488,830	2,166,120	— 677,290	114,050
Rape .... Metre centners	259,510	426,940	— 167,430	37,080
Poppy .... do	23,580	25,540	— 1,930	4,088
Anise and fennel .... do	4,290	4,040	+ 250	1,099
Flax .... do	365,705	367,103	— 1,398	92,352
Tobacco .... do	41,323	30,557	+ 10,766	2,657
Chrysanthemum .... do	37,710	28,400	+ 9,310	1,780
Chicory .... do	286,040	294,910	— 8,870	1,936
Potatoes .... do	90,325,710	81,186,800	+ 9,138,910	1,099,538
Beets:				
Sugar .... do	50,251,000	40,094,350	+10,156,650	225,446
Fodder .... do	22,428,290	23,849,280	— 1,420,990	101,038
Cabbage .... do	4,985,370	8,485,350	— 3,499,980	77,202
Pumpkins .... do	1,720,460	1,569,960	+ 150,500	3,980
Hay:				
Clover .... do	22,438,450	25,435,880	— 2,997,430	815,802
Meadow* .... do	75,301,960	76,447,180	— 1,145,220	2,971,119
Grass, fodder and clover .... do	3,197,850	4,158,330	— 960,480	162,590
Hops .... do	68,638	57,932	+ 10,706	†14,422
Rice .... do	14,350	13,160	+ 1,190	598
Wine .... hectolitres‡	4,106,370	4,154,760	— 48,390	234,541
Figs .... metre centners	49,530	51,570	— 2,040	....
Olive oil .... do	59,016	148,297	— 89,281	....
Kernel fruit .... do	1,480,800	6,533,210	....	....
Drupe .... do	1,450,220	3,111,270	....	....
Nuts and almonds .... do	96,647	102,130	....	....
Mulberry	....	....	....	7,089
Chestnuts	....	....	....	1,458

* 1 hectolitre=2.838 bushels.

† Field, 3,546 hectares; gardens, 10,876 hectares.

‡ 1 hectolitre=26.417 gallons.

From the above table it will be seen that nearly all the crops of 1889, and especially those of the more important cereals, show a falling off of from 15 to 25 per cent. as compared to the harvesting of 1888.

Table showing the various crops of 1889 in the different crown lands of Austria.

Products.	Moravia.	Silesia.	Galicia.		Bukowina.
			West.	East.	
Wheat........hectolitres*...	1,468,170	167,800	1,138,570	2,063,050	133,720
Rye........do......	3,405,720	600,780	1,266,030	3,331,470	276,540
Barley........do......	2,799,520	322,990	1,050,070	1,862,170	392,000
Oats........do......	3,697,940	818,750	1,750,390	3,792,560	416,390
Maize........do......	125,220	....	....	1,044,530	940,610
Millet........do......	105,670	....	41,450	276,200	12,520
Beans, peas, and lentils........do......	299,800	28,180	180,790	899,960	42,230
Maslin........do......	....	14,420	....	....	....
Buckwheat........do......	29,080	8,120	34,840	675,260	58,650
Straw........metre centners...	12,312,400	1,785,550	6,036,100	17,160,000	2,593,500
Rape........do......	24,660	3,000	19,440	45,060	510
Poppy........do......	11,600	....	....	....	....
Anise and fennel........do......	2,270	....	....	....	2,020
Flax:					
Seed........do......	29,290	1,480	....	....	3,090
Fiber........do......	75,130	8,090	26,040	38,580	1,590
Hemp:					
Seed........do......	....	....	....	....	28,700
Fiber........do......	7,020	....	10,690	111,000	16,350
Tobacco........do......	....	....	33,393	1,400	....
Potatoes........do......	12,471,700	3,434,700	10,467,580	25,893,700	2,004,700
Beets:					
Sugar........do......	13,598,430	818,640	508,200	....	....
Fodder........do......	3,105,650	309,700	3,139,960	1,651,660	121,250
Cabbage........do......	512,100	28,970	487,790	867,080	6,900
Pumpkins........do......	....	....	....	....	151,330
Hay:					
Clover........do......	1,972,940	1,124,000	1,966,300	1,009,320	121,120
Meadow........do......	3,364,100	654,200	2,447,050	5,195,970	1,211,100
Clover seed........do......	6,900	1,710	3,880	5,095	724
Grass, fodder and clover........do......	376,380	87,420	332,800	648,960	....
Hops........do......	1,520	....	1,103	4,935	....
Wine:					
White........hectolitres†...	229,720	....	....	....	....
Red........do......	33,900	....	....	....	....
Total........do......	263,620	....	....	....	....
Vine grapes........metre centners...	....	....	....	....	1,680
Fruits:					
Kernel fruit........do......	83,350	2,460	5,820	564,610	64,730
Drupes........do......	81,030	1,700	23,600	497,340	30,040
Nuts (almonds)........do......	....	....	....	1,280	2,600
Total........do......	164,380	4,160	29,420	1,063,230	97,370

* 1 hectolitre=2¾ bushels.

† 1 hectolitre=26.417 gallons.

Table showing the various crops of 1889 in the different crown lands of Austria—Continued.

Products.	Lower Austria.	Upper Austria.	Salzburg.	Styria.	Carinthia.
Wheat……hectolitres*…	1,292,880	857,560	115,240	887,270	225,660
Rye……do……	2,822,200	2,001,250	166,570	1,088,070	530,750
Barley……do……	859,180	901,820	22,200	224,110	180,560
Oats……do……	3,088,290	2,129,840	274,780	1,513,290	605,980
Maize……do……	209,290	……	……	976,500	190,680
Millet……do……	……	……	……	135,050	37,200
Beans, peas, and lentils……do……	50,050	4,100	3,330	176,630	49,290
Maslin……do……	……	341,140	……	……	12,320
Buckwheat……do……	29,160	1,350	……	326,670	38,160
Straw……metre centners…	9,549,420	6,260,550	466,000	5,361,340	2,640,680
Rape……do……	2,920	15,600	……	5,150	……
Poppy……do……	1,490	……	……	……	……
Flax:					
Seed……do……	……	37,200	[illegible]	44,850	4,730
Fiber……do……	6,300	24,550	1,060	39,880	6,180
Hemp:					
Seed……do……	……	4,100	……	8,540	2,300
Fiber……do……	……	2,325	142	8,860	3,430
Potatoes……do……	3,390,530	1,338,300	28,960	1,415,160	727,230
Beets:					
Sugar……do……	596,680	……	……	……	……
Fodder……do……	4,403,220	632,470	8,920	3,425,680	418,970
Cabbage……do……	226,990	319,940	98,590	761,100	83,420
Pumpkins……do……	……	……	……	1,491,720	72,830
Hay:					
Clover……do……	1,552,480	2,760,900	138,790	1,780,340	650,500
Meadow……do……	5,434,090	9,797,200	1,876,140	17,498,130	2,084,320
Clover seed……do……	……	3,900	220	12,980	2,930
Grass, fodder and clover……do……	176,490	71,750	……	161,070	46,200
Hops……do……	……	6,320	……	6,500	60
Wine:					
White……hectolitres†…	1,586,860	……	……	202,910	80
Red……do……	28,640	……	……	107,580	10
Total……do……	1,615,500	……	……	310,490	90
Vine grapes……metre centners…	……	……	……	……	160
Fruits:					
Kernel fruit……do……	……	163,900	60	363,500	20,980
Drupes……do……	……	45,050	130	130,490	5,180
Nuts (almonds)……do……	……	……	……	68,800	1,060
Total……do……	……	208,950	190	571,790	27,220

*1 hectolitre=2¾ bushels.

†1 hectolitre=26.417 gallons.

Table showing the various crops of 1889 in the different crown lands of Austria—Continued.

Products.	Carniola.	Tyrol.		Vorarlberg.	Bohemia.
		North.	South.		
Wheat .... hectolitres*	208,780	92,420	138,850	9,960	4,162,700
Spelt .... do	....	....	....	15,150	....
Rye .... do	159,350	184,550	237,560	4,550	8,765,450
Barley .... do	173,560	113,400	61,500	8,350	6,757,170
Oats .... do	359,530	89,430	31,980	12,990	9,854,140
Maize .... do	288,400	105,960	333,500	41,570	....
Millet .... do	180,870	....	....	....	12,730
Beans, peas, and lentils .... do	22,890	20,440	9,050	2,180	594,600
Maslin .... do	....	....	....	4,090	....
Buckwheat .... do	170,970	7,800	37,650	....	....
Straw .... metre centners	1,842,440	689,300	910,500	121,600	30,677,300
Rape .... do	....	....	....	....	142,900
Poppy .... do	....	....	....	....	10,490
Flax:					
Seed .... do	6,890	4,700	....	....	83,600
Fiber .... do	7,120	6,700	810	35	123,340
Hemp:					
Seed .... do	880	120	....	....	290
Fiber .... do	990	93	1,220	290	460
Tobacco .... do	5,130	....	....	....	....
Chicory .... do	....	....	....	....	286,040
Potatoes .... do	954,320	265,960	129,800	101,840	27,350,640
Beets:					
Sugar .... do	....	....	....	....	34,729,050
Fodder .... do	827,060	291,800	162,450	20,310	3,757,720
Cabbage .... do	202,070	41,050	76,350	7,410	1,163,510
Pumpkins .... do	....	....	....	4,580	....
Hay:					
Clover .... do	675,460	80,400	127,180	4,550	8,378,280
Meadow .... do	2,833,100	3,867,300	2,763,840	1,331,310	13,084,540
Clover seed .... do	2,320	....	....	....	23,090
Grass, fodder and clover .... do	10,970	1,600	....	....	1,254,930
Hops .... do	....	....	....	....	48,200
Wine:					
White .... hectolitres†	68,020	1,310	29,790	2,020	5,240
Red .... do	66,550	520	137,860	220	3,150
Total .... do	134,570	1,830	167,650	2,240	8,390
Fruits:					
Kernel fruit .... metre centners	7,810	1,700	19,260	1,880	163,780
Drupes .... do	15,650	450	9,150	2,530	563,570
Nuts (almonds) .... do	9,130	80	2,810	....	....
Total .... do	32,590	2,230	31,220	4,410	727,350
Olive oil .... do	....	....	1,120	....	....

* 1 hectolitre=2⅞ bushels.

† 1 hectolitre=26.417 gallons.

Table showing the various crops of 1889 in the different crown lands of Austria—Continued.

Products.	Göritz and Gradiska.	Trieste.	Istria.	Dalmatia.	Total.
Wheat..........hectolitres*...	132,140	1,230	102,030	326,800	13,524,830
Spelt..........do......	5,080	40	47,060	29,800	97,130
Rye..........do......	13,930	1,180	21,330	67,520	24,944,800
Barley..........do......	36,170	1,140	63,770	306,870	16,136,550
Oats..........do......	17,080	....	40,450	30,080	28,523,880
Maize..........do......	313,550	3,620	321,490	911,130	5,806,050
Millet..........do......	970	....	6,200	96,420	905,280
Sorghum..........do......	3,800	....	20,690	15,040	39,530
Beans, peas, and lentils..........do......	13,820	[illegible]	15,635	22,270	2,435,415
Maslin..........do......	....	....	....	57,450	429,420
Buckwheat..........do......	63,650	1,130	6,340	....	1,488,830
Straw..........metre centners...	489,600	6,240	702,100	2,090,330	101,694,950
Rape..........do......	260	....	....	....	259,510
Poppy..........do......	....	....	....	....	23,580
Anise and fennel..........do......	....	....	....	....	4,290
Flax fiber..........do......	300	....	....	....	365,707
Hemp fiber..........do......	710	....	....	....	163,580
Tobacco..........do......	....	....	1,400	....	41,323
Chrysanthemum..........do......	....	....	37,710	....	37,710
Chicory..........do......	....	....	....	....	286,040
Potatoes..........do......	131,960	900	64,830	152,900	90,325,710
Beets:					
Sugar..........do......	....	....	....	....	50,251,000
Fodder..........do......	131,540	1,250	12,480	6,200	22,428,290
Cabbage..........do......	7,180	....	21,500	73,420	4,985,370
Pumpkins..........do......	....	....	....	....	1,720,460
Hay:					
Clover..........do......	79,410	440	6,230	9,810	22,438,450
Meadow..........do......	788,980	15,200	726,720	328,670	75,301,960
Clover seed..........do......	150	....	70	....	....
Grass, fodder and clover..........do......	24,050	600	4,720	....	3,197,850
Hops..........do......	....	....	....	....	68,638
Rice..........do......	14,350	....	....	....	14,350
Wine:					
White..........hectolitres†...	50,380	9,000	73,500	72,720	2,331,550
Red..........do......	71,220	13,900	233,350	1,077,920	1,774,820
Total..........do......	121,600	22,900	306,850	1,150,640	4,106,370
Grapes..........metre centners...	....	....	820	....	....
Figs..........do......	....	600	16,900	32,030	49,530
Chestnuts..........do......	5,100	21	1,300	280	....
Fruits:					
Kernel fruit..........do......	14,130	....	1,000	1,830	....
Drupes..........do......	20,280	....	1,440	13,590	....
Nuts (almonds)..........do......	1,810	27	720	6,330	....
Total..........do......	36,400	27	3,160	21,750	....
Olive oil..........do......	55	41	4,520	53,280	59,016
Mulberry leaves..........do......	53,680	210	49,070	35,210	....

*1 hectolitre=2¾ bushels.

†1 hectolitre=26.417 gallons.

Table showing the range of weight of 1 hectolitre of the chief grain crops in the several crown lands of Austria in 1889.

Crown land.	Wheat.	Rye.	Barley.	Oats.	Maize.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
Lower Austria	74 to 79	63 to 73	60 to 64	40 to 44	71 to 80
Upper Austria	73 to 76	67 to 70	57 to 60	43 to 46	....
Salzburg	60 to 79	56 to 70	46 to 56	38 to 41	....
Styria	72 to 75	67 to 70	57 to 61	43 to 45	74 to 75
Carinthia	73 to 76	69 to 72	60 to 64	42 to 46	68 to 72
Vorarlberg	82	75	66	54	76
Tyrol:					
North	68 to 74	67 to 68	60 to 62	37 to 44	64 to 66
South	73 to 76	70 to 72	56 to 61	37 to 41	64 to 74
Carniola	69 to 75	61 to 69	58 to 65	42 to 43	67 to 71
Görtz and Gradiska	73 to 80	68 to 73	60 to 64	40 to 49	63 to 73
Trieste	76	68	62	....	75
Istria	61 to 76	62 to 71	51 to 61	37 to 43	53 to 72
Dalmatia	74 to 75	72 to 73	62 to 64	38 to 39	70 to 74
Bohemia	72 to 78	69 to 73	63 to 66	43 to 48	66 to 67
Moravia	71 to 78	71 to 76	60 to 66	41 to 46	72 to 77
Silesia	75	69	60	45	....
Galicia:					
West	74 to 76	71 to 73	61 to 65	44 to 48	....
East	68 to 76	62 to 71	57 to 66	39 to 45	66 to 77
Bukowina	70 to 73	66 to 70	62 to 63	40 to 45	70 to 75

AUSTRIAN BARLEY AND MALT.

Barley.—Barley represents one of the most important kinds of grain of the Monarchy, and it is not marketed on future terms. The finest barley is grown in Moravia, and particularly that of the "Hanna plain," which is valued higher than barley produced near the River Saale, which latter is considered the very best kind of German barley.

For 1889 Moravia yielded only a two-thirds crop. After harvesting, malting barley was noted at 9 florins per 100 kilogrammes; but, in consequence of the failure of the barley crop in Bohemia and of that in the north of Hungary, where brewing barley of an inferior quality is raised, the prices of last week reached 10.50 florins and higher, and superior qualities were sold for 11.50 florins and more. The rise in prices was chiefly caused by great demand from Germany; for, in spite of all previous and persistently continued misrepresentation of the true state, it still became evident that the barley crop of Germany would prove a total failure.

The enormous advance in prices for Moravian barley of prime quality was followed by a rise of prices for inferior qualities grown in certain parts of Austria-Hungary—upper Hungary (Kaschau), Galicia, Slovakia (northwestern Hungary)—which, being scarcely fit for exporting, at other times are scarcely taken note of.

The greater part of Austrian barley is exported in the form of malt.

Malt.—The independent trade of making malt, that is, the making of malt for sale in places not connected with any brewery, has existed in Austria for 30 years and was first commenced in Moravia, which is still the chief seat of malt-making. Notwithstanding the tariff politics of the agrarians during the last decade, and in spite of German competition, called forth and strengthened by those tariff politics, the exporting of Austrian malt, owing to the growing consumption of beer in Europe, has been on the increase from year to year. The very best reputation is attached to Hanna malt, 100 kilogrammes of which will bring from 3 to 5 florins more than any other malt.

There are somewhat over 100 independent malt factories (not including those connected with breweries) in Austria-Hungary, 60 of which are in Moravia, 10 in Silesia, and the rest distributed over Bohemia, Lower Austria, and Hungary.

The principal export of malt is directed to Germany, the annual export to that country amounting to 10,000 railway cars of 10 tons each. About 2,500 railway cars of malt are exported to Switzerland, and smaller quantities are sent to Belgium, Sweden, Norway, Denmark, Holland, Italy, etc. Hamburg exporters are said to have been shipping small lots of malt to the United States this year.

AUSTRIAN HOPS.

The fact of beer having been introduced into parts where even the name of "beer" had been unknown before and its constantly increasing consumption all over the face of the earth can not be looked upon but with satisfaction, if, as it is alleged, the use of it is destined in a great measure to supplant that of strong alcoholic drink with the laboring classes in general. Without dwelling on the pernicious effects resulting from the use of strong drink, the moderate use of beer, it is held, nourishes and strengthens the body without besotting the mind. As a consequence, beer has become a great staple article in the marts of the world; and the several industries connected with the manufacture of it, which have assumed immense proportions, are growing into greater significance. Its growing consumption has led to a greater supervision on the part of the Government as to the ingredients needed for its manufacture. The chief ingredients of beer are barley, in the form of malt, and hops; both of these are cultivated and largely exported to Germany, England, and the United States.

The chief districts for growing hops in Austria are the countries about Saaz, Auscha, and Dauba. There are about 11,500 hectares under cultivation, yielding annually 120,000 to 130,000 metre centners of hops.

The hops of Saaz are claimed to be the best in the world. There are about 2,500 *Striche* (rows), with 75,000 *Schocke* (4,500,000) of *Stangen* (poles), which is equal to an area of about 7,500 to 8,000 hectares for the cultivation of hops near Saaz. The average product of that area is considered a good one if 10 *Schocke* (600 *Stangen*) yield 50 metre centners of hops; hence the hop crop of 1889, being estimated at from 75,000 to 80,000 metre centners, must be deemed one of the best ever produced in the district. Regarding the prime cost, it is generally considered that, not taking into account any failure of crop, the average expenses for the production of 1 metre centner of

Saaz hops obtained by a good middling crop, that is to say, with a total produce of 50,000 to 60,000 metre centners, will amount to from 60 to 70 florins.

The crop of 1889, as already mentioned, yielded from 75,000 to 80,000 metre centners. The quality, in spite of the large quantity of hops planted, is one of the very best obtained for many years—of finest growth, light color, shining, captivating the eye, and perfectly sound. It is, indeed, without any blemish and fully justifies the appellation of "best hops."

The firstlings of 1889 were placed at the price of 90 to 100 florins per 50 kilogrammes, but as soon as it was ascertained that an unusual abundance of hops had been secured those prices could not be maintained, and business became very stagnant. Producers from all sides were pressing for sales, transactions grew languid, and prices declined from 45 to 55 florins. At prices thus reduced both traders and brewers became willing buyers, and by the middle of September more than half of the hop product of the Saaz district had changed hands. In consequence of the brisk transactions, the other half of the crop met with ready sales, and during the months of September and October Saaz hops commanded again from 70 to 80 florins per 100 kilogrammes. Up to this day that price has not only been fully maintained, but seems rather on the advance. Sellers of good hops are holding back at the price of 80 florins per 50 kilogrammes, probably induced by the consideration that the stock in the hands of the producers will scarcely amount to 500 metre centners and that the wants have not yet been fully supplied. There is scarcely any probability that the price for this sort of hops will give way.

The following table exhibits the average price for 50 kilogrammes of Saaz hops during the harvests of the last 15 years:

Year.	Opening.	Middle.	Close.*
	Florins.	*Florins.*	*Florins.*
1875	110	60	60
1876	300	380	320
1877	110	100	90
1878	115	130	70
1879	150	140	100
1880	100	90	100
1881	130	120	80
1882	160	280	260
1883	160	150	130
1884	110	125	120
1885	80	70	60
1886	105	100	85
1887	110	145	120
1888	150	130	120
1889	85	60	75 to 80

* The last day of December of each year is taken as the close of the harvest.

The district of Rothlande comprises the hop-growing countries about Auscha, Leitmeritz, Raudnitz, and Wegstadt. The product is well liked and known by the name of "Auschaer Rothhopfen" (Auscha red hops). There are about 2,000 hectares cultivated, and the yield for 1889 was about 25,000 metre centners, or about 10 metre centners per hectare. With a good crop the cost for producing 50 kilogrammes of hops will not exceed 30 to 32 florins.

During the last harvest prices for hops varied from 35 to 55 florins, but, the stock on hand having become greatly reduced by the lively sales of September, October, and November, producers now ask and receive from 50 to 60 florins for 50 kilogrammes. However, it is but natural that these small stocks have much to be wished for in regard to quality. The average price for Auscha red hops for the last 10 years may be taken to be about 65 florins per 50 kilogrammes. The annexed table shows the average price for 50 kilogrammes of Auscha red hops at the opening, middle, and close of each harvest for the last 11 years:

Year.	Opening.	Middle.	Close.
	Florins.	*Florins.*	*Florins.*
1879	85	65	30
1880	45	35	60
1881	80	50	55
1882	100	280	150
1883	85	110	90
1884	80	60	35
1885	35	30	15
1886	60	40	20
1887	40	20	30
1888	90	50	30
1889	60	35	50

The Grünlande of Dauba comprises about 1,485 hectares of fields, producing "Grünhopfen" (green hops) located in the following districts: Dauba, 650 hectares; Wegstadt, 155 hectares; Melnik, 214 hectares; Leipa, about 85 hectares. In 1889 the total crop of the Grünlande was 20,000 metre centners, or about 13 metre centners per hectare. The prime cost for a good crop of green hops varies from 24 to 26 florins for 50 kilogrammes.

The harvest of 1889 started with the price of 35 florins per 50 kilogrammes of green hops; that price, however, could be maintained but a very short time, as in the first half of December it had declined to 18 to 22 florins. At these low prices large transactions for export took place, prices remaining nearly unchanged until the middle of October, when they showed signs of rising again, and enormous quantites of green hops were shipped to England at 20 to 30 florins per 50 kilogrammes. The present stock of green hops at the disposal of producers is very small. The average price of green hops for the last 10 years may be computed at 35 florins per 50 kilogrammes.

AUSTRIAN OILSEEDS.

Oilseeds are mostly cultivated in Hungary, although there is some rape also grown in Austria. This crop has proved a failure, hence the price of 12 florins before harvesting has reached at present the figure of 19.50 florins.

HUNGARIAN AGRICULTURE.

The total acreage of Hungary in 1889, as reported by the department of agriculture, was 6,396,029 hectares, which were cultivated for the several products according to the following table:

Table giving the acreage, yield, and value of the chief grain crops in 1889 and the average yield per toch.

Products.	Area.	Yield.	Value.	Average yield per toch.
	Tochs.	*Metre cent.*	*Florins.*	*Metre cent.*
Wheat	5,058,765	25,235,886	197,397,468	4.98
Rye	2,176,948	10,692,703	67,010,907	4.91
Barley	1,749,197	7,695,855	49,681,655	4.40
Oats	1,777,373	6,718,835	37,179,759	3.78
Rape	99,731	293,761	4,576,362	2.95
Millet	80,816	417,226	2,181,064	5.16
Maize	3,367,403	26,593,653	115,021,040	7.90
Peas, beans, and lentils	79,150	403,222	2,936,996	5.09
Vetch seed	131,716	702,742	4,106,589	5.33
Flax:				
Seed	23,969	81,711	799,250	3.41
Fiber		85,834	3,501,080	3.58
Hemp:				
Seed	128,866	398,965	3,055,959	3.09
Fiber		489,027	16,972,028	3.79
Tobacco	79,248	567,240	11,033,252	7.15
Beets:				
Sugar	95,048	11,091,536	9,489,454	116.69
Fodder	197,870	29,261,657	17,708,365	147.88
Potatoes	763,533	28,846,627	36,766,739	37.78
Lucern clover (sainfoin)	466,817	9,889,477	23,292,634	21.18
Vetch mixture (millet, grain, etc.)	421,351	6,832,511	14,930,844	16.21
Hay	4,594,025	54,183,193	116,907,530	11.80
Total	21,291,817		734,648,975	

NOTE.—1 toch=1⅕ acres.

AUSTRIAN WINE AND AMERICAN VINES.

Fruit has proved a total failure throughout the whole of the realm, but the vintage, both of Austria and Hungary, has turned out above "middling good," not only in quantity, but also in quality. To counteract the spread of the *Peronospora* Parliament has granted to wine-growers the importation of blue vitriol free of duty, and the Hungarian minister of agriculture contemplates utilizing the large sandy plains of the country for the planting of vineyards. It is proposed to plant about 40,000 acres with vines imported from the United States, as these have hitherto defied the phylloxera. Not only are the wine-growers of Austria dependent on the American vine, but the wine-growers of Europe are equally dependent thereon.

It is not many years since people in general looked up inquiringly and shrugged their shoulders distrustfully when they first heard of the wines of California. To-day we may point out to skeptical Europe that, as the immense advance of mankind on the way to independence and to happiness is chiefly due to the peace-promoting inventions of our young nation, and as our grain and beef and pork supply the densely crowded and needy populations of Europe with cheap and wholesome nourishment, and as our cotton enriches their wealthy and gives employment to their laborers, so our vine, even at present, is saving their wine-growers from total extinction.

It is a well-known fact that in Austria-Hungary, in Germany, France, etc., very large areas of valuable land in a high state of cultivation have for ages been converted into vineyards, and that thousands upon thousands of wine-growers, devoting all their time and studies to the cultivation of the vine, derive their whole support and their only means of subsistence from the results of the vintage.

All those studies and all that labor of many generations have been set at naught by the appearance and ravages of a little mite, the phylloxera; and the entire destruction of the vineyards, which the efforts of the sages of Europe, with all their deep science, have not been able to avert, would only become a mere question of time had not the American vine come to the assistance of the hard-pressed wine-growers of Europe.

In comment thereon, it will be interesting to read the following extract from an article published in the Austrian newspaper Neue Freie Presse of September 20, 1890, and headed "The Exhibition of American and Improved Vines at the Agricultural Exhibition at Vienna."

> The continued augmentation and uninterrupted spreading out of the noxious insect phylloxera is affecting the domestic culture of the vine in a manner more and more threatening, hence the greatest interest is turned to any measure or experiment which might procure the means of protection against the terrible devastation caused to vineyards by that mischievous insect. The American vine offers us the means of still pursuing our cultivating of the vine in spite of the phylloxera, and, although many a trial and several experiments will yet have to be made in the choice of the sorts best adapted for such purpose, still the present results already attained by the trials made in Austria have proved very encouraging and hold out the best hopes of securing our vineyards against the ravages of the phylloxera, aside from taking into consideration the most brilliant success which the French point out in regard to the introduction of the American vine.

At the recent agricultural exhibition there were exhibited several sorts of American vines bearing grapes directly and various kinds of improved vines that were cultivated in lower Austria by some associations and by private persons. Although the collection was far from being complete, many of the wine-growers and technical schools not being represented in it, still the exhibition was very interesting and proved highly instructive. It shows us the American vine to be of a wonderful power of vegetation, and that in 1 year it is able to produce shoots of more than 5 metres (15 feet) in length; it demonstrates the surprisingly rich vegetation of the American vine successfully improved.

Although these facts are not unknown to some of the professional men, yet they have not come to the knowledge of a great number of wine-growers, and to these, therefore, the exhibition offered a rare chance of seeing and learning.

Worthy of notice, in the first place, is the collection of the Landes Rebschule (school and nursery for vines), in Korneuburg, displaying improved vines, of which more than 90 per cent. have proved a perfect success, as also American vines (Triumph and Othello) bearing directly and heavily laden with grapes. Improved and directly bearing vines from the vineyards of the convent at Melk, besides a magnificent assortment of grapes obtained there, partly from American vines and partly from improved vines, are likewise on exhibition. The Winzerschule (vintagers' school) in Krems is represented by highly and successfully improved vines. Coping with these for success are the several associations of wine-growers in Grinzing, Gumpoldskirchen, Mödling, Tribuswinkel, etc., displaying improved vines, some of which are covered with grapes. The convent of Zwettel has also joined in the contest, besides a good many other associations and wine-growers, most of them with a highly gratifying result.

The exhibition is a welcome manifestation of the cheering proof that the wine-growers are zealously engaged in the resuscitation of, and making productive again, their vineyards, which have been laid waste to so great an extent by the devastation caused by the phylloxera, and that they are willing to accept instruction. It is wished that such information be not confined to a few districts, and that endeavors to promote the interest of wine-growers by proper information will in other parts meet with the same assistance from the proper authorities as they do with those of Lower Austria.

PRIMOGENITURE FARMERS.

The retrogressive tendency in all the branches of Austrian legislation has been the means of creating an agrarian law, which was combated by the enlightened men of all parties, but which, however, was "whipped through" by a peculiar combination of factions—the votes of the Slavs, together with those of the ultraconservative and ultraorthodox factions. The new law is entitled "Law relating to the introduction of special regulations for the portioning out of hereditary shares of agricultural estates of medium size (small farms)." By this law it is ordained that all such farms as are not larger in extent than the "minimum extent which is to be determined upon by the *Landesgesetzgebung* (provincial or county legislature) must not be divided among the heirs, but transferred in their entirety to one heir. This law grants special advantages to the heir apparent, such as a præcipium appraisement at very low figures and a long term for the payment of the legitimate portions of any coheirs, etc.

This law was principally objected to on the ground that the execution of it would be the means of creating a proletariate amongst the peasantry, which evil could scarcely be counterbalanced by the fact that at least one of the heirs—the heir apparent—would derive a sufficiency of sustenance from the farm, which, if divided, would undergo dismemberment and prove insufficient to satisfy the wants of either of the heirs. This reactionary law has, however, received a damper by the paragraph which places the determining of the "minimum size of a farm" in the hands of the different county legislatures, some of which are already preparing dilatory measures which will nullify the law.

One advantage offered by this law is its greatly facilitating the collecting of taxes for husbandry, the gathering of dues being much safer and a great deal less expensive to the State when exacted from the proprietor of one small farm than from the owners of several small plots of land; nay, a compulsory collection of dues from the latter will invariably fail to cover the expenses incurred for collecting.

AUSTRO-HUNGARIAN CROPS OF 1890.

No official reports have as yet been published of the crops of 1890 in Austria-Hungary, nor probably will be before August, 1891. As soon as they can be obtained I shall have the honor to submit them to the Department.

The following figures on the estimated cereal crops were reported at the eighteenth international corn market held at Vienna on August 25 and 26, 1890:

Table showing the acreage and estimated yield of the chief grain crops of Austria-Hungary in 1890.

Products.	Acreage.			Yield.		
	Austria.	Hungary.	Total.	Austria.	Hungary.	Total.
	Hectares.	*Hectares.*	*Hectares.*	*Metre cent.*	*Metre cent.*	*Metre cent.*
Wheat	1,174,024	3,032,632	4,206,656	17,000,000	47,000,000	64,000,000
Rye	1,973,292	1,185,182	3,158,474	30,000,000	18,000,000	48,000,000
Barley	1,109,824	1,048,842	2,158,666	19,000,000	16,700,000	35,700.000
Oats	1,880,485	1,129,373	3,009,858	31,000,000	14,000,000	45,000,000

If the average return for 1 toch be estimated for wheat at 6½ metre centners in Austria and 5 metre centners in Hungary, rye at 6 metre centners in Austria and 5 metre centners in Hungary, barley at 6½ metre centners in Austria and 5 metre centners in Hungary, oats at 6 metre centners in Austria and 6½ metre centners in Hungary, the cereal crops of 1890 in Austria-Hungary would exceed that of a full middling crop, leaving the surplus as follows: Wheat, 10,000,000 metre centners; rye, 7,000,000 metre centners; barley, 5,000,000 metre centners; oats, 5,000,000 metre centners.

A full middling crop (not the average return of former years), taken at 100 units, shows the average return of the harvest of 1890, expressed in percentage and in round figures, to be as follows:

Country.	Wheat.	Rye.	Barley.	Oats.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Austria	100	107	111	119
Hungary	127	138	124	98

AUSTRIAN CROPS OF 1890.

The area of 1,174,024 hectares under cereal cultivation in Austria in 1890 yielded the following returns:

Table showing the yield in 1890 of the four principal grain crops in the several crown lands of Austria.

Crown lands.	Wheat.	Rye.	Barley.	Oats.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*
Lower Austria	1,393,566	2,953,926	1,400,818	3,184,418
Upper Austria	834,986	1,148,840	646,842	1,205,373
Salzburg	109,714	142,206	18,349	141,432
Styria	962,989	1,110,439	247,724	1,351,189
Carinthia	230,013	567,442	158,102	323,577
Carniola	324,164	232,212	214,342	264,480
Tyrol:				
North	1,137,916	204,316	77,820	76,771
South	156,433	220,480	44,672	19,683
Vorarlberg	17,496	13,883	7,686	6,050
Bohemia	4,343,155	9,524,401	6,717,122	7,600,455
Moravia	1,558,427	3,873,745	3,513,546	3,906,018
Silesia	180,691	685,976	437,998	939,933
Galicia:				
West	1,463,800	3,072,160	1,791,252	4,745,292
East	3,303,706	5,126,158	3,856,582	7,031,343
Bukowina	340,550	565,774	562,890	624,096
Göritz and Gradiska	132,828	9,899	21,946	17,777
Trieste	1,200	1,233	642	....
Istria	145,753	24,559	74,378	42,178
Dalmatia	335,940	62,655	267,120	47,510
Total	16,973,321	30,040,104	19,663,831	31,527,575

The quality of grain, judged by its weight, is given for each crown land by the following table:

Table showing the weight per hectolitre (2.838 bushels) of the grain crop of each crown land for 1890.

Crown land.	Wheat.	Rye.	Barley.	Oats.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*
Lower Austria	72 to 84	67 to 76	56 to 70	40 to 52
Upper Austria	73 to 79	68 to 73	62 to 65	38 to 48
Salzburg	76 to 79	65 to 70	60 to 65	....
Styria	76 to 90	69 to 72	62 to 68	45 to 53
Carinthia	75 to 82	72 to 76	64 to 70	43 to 48
Carniola	75 to 76	70 to 73	62 to 65	46 to 52
Tyrol:				
North	76 to 77	69 to 72	63 to 65	45 to 49
South	76 to 80	70 to 74	64 to 68	46 to 48
Bohemia	70 to 84	60 to 78	60 to 72	42 to 52
Moravia	70 to 82	68 to 78	62 to 72	42 to 52
Silesia	75 to 80	70 to 74	64 to 71	45 to 54
Galicia:				
West	73 to 77	69 to 72	60 to 68	46 to 50
East	70 to 79	67 to 76	62 to 65	....
Bukowina	70 to 80	69 to 75	60 to 65	40 to 50
Trieste	....	....	60 to 65	....
Göritz and Gradiska	77 to 80	60 to 73	60 to 65	40 to 48

THE WORLD'S WHEAT HARVEST.

The world's wheat harvest, as estimated and reported at the eighteenth international corn market, held at Vienna, Austria, on August 25 and 26, 1890, from the publications of the several Governments, and from other reliable sources, shows the following results:

Table showing the wheat crop for 1888, 1889, and 1890 of the chief grain-growing countries of Europe.

Countries.	1888.	1889.	1890.
	Hectolitres.	*Hectolitres.*	*Hectolitres.*
Austria	18,270,000	13,572,000	17,400,000
Hungary	49,685,700	33,570,400	57,202,500
Belgium	6,090,000	6,960,000	6,960,000
Bulgaria	13,050,000	12,760,000	13,050,000
Denmark	1,392,000	1,812,500	2,030,000
France	99,812,200	113,825,000	116,000,000
Germany	33,358,700	30,812,500	33,350,000
Greece	3,625,000	3,987,500	4,350,000
Holland	1,740,000	2,175,000	2,175,000
Italy	36,627,000	36,482,000	44,587,500
Norway	145,000	145,000	145,000
Portugal	2,465,000	2,900,000	2,900,000
Roumania	20,320,000	15,767,300	21,750,000
Russia	108,750,000	66,120,000	75,690,000
Servia	3,117,500	2,175,000	3,625,000
Spain	23,838,000	26,680,000	24,650,000
Sweden	1,339,800	1,342,700	1,305,000
Switzerland	725,000	870,000	870,000
Turkey	14,500,000	13,050,000	13,050,000
Great Britain	27,201,900	27,506,500	27,550,000
Total	465,832,800	412,513,400	468,640,000

Table showing the wheat crop for 1888, 1889, and 1890 of the chief grain-growing countries not belonging to Europe.

Countries.	1888.	1889.	1890.
	Hectolitres.	*Hectolitres.*	*Hectolitres.*
Algiers	7,960,500	5,713,000	7,975,000
Argentine Republic	4,350,000	7,975,000	7,975,000
Australia	9,497,500	15,297,500	14,500,000
Asia Minor	13,050,000	13,050,000	13,050,000
Canada	11,600,000	10,875,000	13,775,000
Cape colonies	1,380,400	1,325,000	1,305,000
Chile	4,350,000	5,147,500	6,525,000
Egypt	2,900,000	2,537,500	2,990,000
India	94,383,400	85,964,700	82,650,000
Persia	8,120,000	7,975,000	7,975,000
Syria	5,075,000	4,350,000	4,350,000
United States	150,750,500	177,828,000	145,000,000
Total	313,417,300	338,038,200	307,980,000

This makes up the estimated total of the world's wheat crop for 1890 as follows: Europe, 468,640,000 hectolitres; United States, 145,000,000 hectolitres; other countries, 162,980,000 hectolitres; total, 776,620,000 hectolitres, against 750,000,000 hectolitres in 1889 and 779,000,000 hectolitres in 1888. Thus the world's yield of wheat for 1890 is about 56,000,000 hectolitres greater than that of 1889.

The following prices in francs (gold) were paid at the following places in December, 1889 and 1890, for 100 kilogrammes of domestic wheat or equally good foreign wheat, duty paid:

Market.	1889.	1890.
	Francs.	*Francs.*
London	18.00	19.00
Paris	22.75	26.50
Berlin	23.75	23.75
Antwerp	17.75	19.00
Amsterdam	17.00	18.50
New York	16.50	19.50
Zurich	23.25	22.75
Odessa	14.50	16.00
Brahilov	13.50	15.50
Vienna	18.25	18.50

Thus it will be found that nearly all the principal grain markets show a rise in the price of wheat, which, however moderate, had not been taken into calculation by, and was quite unexpected to, the grain trade in general, which, in view of the harvest returns, had been looking for a reduction of prices by the end of August. As a natural consequence that disappointment was accompanied by very great losses.

The principal cause for the disappointment may be ascribed to the reason that, in judging of the statistical situation of the cereals, there had not been taken into consideration the great influence which the enormous stores of the crop of 1887 would bear on the prices for the harvest of 1888–'89 and 1889–'90.

In 1887 the wheat crop of Europe alone yielded 501,000,000 hectolitres; that of Europe and of the other countries together, 818,000,000 hectoliters; of which enormous quantity, according to the consumption of wheat in the world as calculated by English statisticians, there remained at the beginning of the harvest of 1888–'89 a surplus quantity of 40,000,000 to 50,000,000 hectolitres. The pressure of that surplus quantity on the market, although gradually decreasing, would not admit of a rising tendency of prices, and it was not until the end of the harvest of 1889–'90, and when the surplus quantity had been for the greater part disposed of, that the situation of the market began to assume a normal condition; and, as all fresh arrivals were readily taken up—which in the beginning proved even insufficient to supply the demand—the stability of the market and steady prices were natural consequences, and so much the more as the potato crop, which is of such vital interest to many countries, failed to answer the expectations, as in eastern and central Europe.

WHEAT CONSUMPTION IN EUROPE.

The consumption of wheat, according to the statistics of professional men, is supposed to be, per head of the population (men, women, and children), as follows:

Country.	Quantity.	Country.	Quantity.
	Hectolitres.		*Hectolitres.*
France	2.7	Denmark	0.52
Great Britain	2.152	Sweden and Norway	0.41
Belgium	2.32	Russia	0.65
Holland	2.447	Asia Minor	0.555
Spain	1.94	Syria	0.565
Portugal	1.69	Persia	0.5
Italy	1.597	India (English)	0.51
Greece	1.563	Australia	2.42
Turkey	1.182	United States	1.55
Algiers	1.28	Canada	1.446
Egypt	0.875	Mexico	1.025
Germany	0.928	Antilles	1.02
Switzerland	1.673	Central America	1.01
Austria-Hungary	1.45	Chile and Peru	1.55
Roumania	1.52	Argentine Republic	1.625
Servia	1.15		

If these figures be taken as the base for a calculation of the consumption of wheat, taking into account the respective populations of the different countries for each year and the necessary supply for seed and industrial purposes, the crops of wheat since 1887 and its consumption were as follows:

Year.	Yield.	Consumption.	Excess or deficit.
	Hectolitres.	*Hectolitres.*	*Hectolitres.*
1887-'88	818,142,200	772,850,000	+45,292,200
1888-'89	779,250,300	777,925,000	+ 1,325,300
1889-'90	750,556,960	784,450,000	—33,595,100
1890-'91	776,620,000	789,525,000	—12,905,000

AUSTRO-HUNGARIAN IMPORTS AND EXPORTS OF CATTLE.

In 1889 there were exported from Austria-Hungary: Oxen and bulls, 63,439; cows, 41,122; heifers, 18,390; calves, 10,812. In the first 9 months of 1890 there were exported: Oxen and bulls, 56,722; cows, 33,349; heifers, 15,223; calves, 8,526.

Table showing the imports and exports of cattle from 1886 to 1889.

Year.	Imports.	Exports.	Excess of exports.
	Number.	*Number.*	*Number.*
1886	68,139	128,664	60,525
1887	63,279	101,322	38,043
1888	49,624	94,978	45,354
1889	49,462	133,763	84,301

The average import and export of cattle from 1831 to 1889 is shown by the following table:

Period.	Annual average.		Excess of—	
	Imports.	Exports.	Imports.	Exports.
	Number.	*Number.*	*Number.*	*Number.*
1831–'35	145,667	94,291	59,376	....
1836–'40	169,634	93,423	76,211	....
1841–'45	169,222	124,155	45,067	....
1846–'50	125,513	90,638	34,875	....
1851–'55	148,876	93,070	56,806	....
1856–'60	130,556	99,670	30,886	....
1861–'65	108,420	138,058	....	29,638
1866–'70	131,685	139,305	....	7,620
1871–'75	179,589	145,986	33,603	....
1876–'80	111,509	170,920	....	59,411
1881–'85	66,325	114,805	....	48,480
1886–'89	57,626	114,682	....	57,056

The decrease in the import of cattle is chiefly attributable to the prohibition of the entrance of cattle from Roumania, which caused a reduction in the import of fully 52 per cent., whilst the export of cattle from Austria-Hungary does not seem to be affected thereby.

GENERAL EXPORTS.

The most important articles of export are coal, wood, grain, vegetables, and minerals, which together form 88 per cent. of the whole export, as may be seen by the following table:

Table showing the Austro-Hungarian exports from 1879 to October 31, 1890, inclusive.

Year.	Coal.	Wood.	Grain and vegetables.	Minerals.	Other wares.	Total.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*
1879	32,800,000	17,200,000	12,300,000	2,600,000	12,000,000	76,900,000
1880	37,200,000	17,500,000	9,200,000	4,800,000	12,500,000	81,200,000
1881	36,600,000	19,200,000	10,000,000	6,700,000	12,400,000	84,900,000
1882	34,900,000	20,100,000	13,400,000	8,000,000	12,200,000	88,600,000
1883	40,700,000	21,100,000	9,900,000	8,300,000	13,200,000	93,200,000
Total	182,200,000	95,100,000	54,800,000	30,400,000	62,300,000	424,800,000
1884	41,200,000	22,300,000	8,300,000	9,400,000	13,400,000	94,600,000
1885	41,200,000	22,300,000	9,500,000	9,200,000	13,100,000	95,300,000
1886	45,000,000	19,200,000	9,200,000	8,600,000	14,100,000	96,100,000
1887	47,500,000	21,000,000	10,700,000	7,300,000	13,000,000	99,500,000
1888	61,200,000	20,900,000	13,400,000	6,600,000	15,200,000	117,300,000
Total	236,100,000	105,700,000	51,100,000	41,100,000	68,800,000	502,800,000
Average:						
1879–'83	36,400,000	19,000,000	11,000,000	6,100,000	12,500,000	85,000,000
1884–'88	47,200,000	21,100,000	10,200,000	8,200,000	13,800,000	100,500,000
1889	59,600,000	23,000,000	7,800,000	7,400,000	....	....
First 10 months of 1890	54,800,000	12,900,000	8,300,000	8,900,000	17,600,000	102,500,000

NOTE.—1 metre centner = 221½ pounds.

Spinning and weaving form a very important link in the chain of foreign trade, as may be seen from the following table:

Table showing the textile exports from 1879 to October 31, 1890, inclusive.

Year.	Cotton yarn.	Cotton. goods.	Linen yarn.	Linen goods.	Woolen yarn.
	Met. cent.	*Met. cent*	*Met. cent.*	*Met. cent.*	*Met. cent.*
1879	4,619	26,555	105,001	52,336	14,965
1880	5,616	28,769	76,851	41,182	13,155
1881	7,236	34,095	91,169	45,354	13,185
1882	6,860	31,616	102,552	41,536	14,319
1883	8,323	40,042	94,879	26,878	12,907
Total	32,654	161,077	470,452	207,284	68,531
1884	7,471	36,277	88,624	24,697	14,532
1885	8,742	35,033	99,667	18,284	14,415
1886	9,577	38,329	105,942	20,426	17,437
1887	9,782	37,609	102,362	24,091	12,286
1888	10,760	33,035	91,545	22,818	12,841
Total	46,332	180,226	488,180	110,316	71,511
Average:					
1879–'83	6,531	32,205	94,090	41,457	13,706
1884–'88	9,226	36,057	97,636	22,063	14,302
1889	10,311	29,968	82,128	27,267	11,038
First 10 months of 1890	12,090	25,020	64,492	*46,164	7,034

Year.	Woolen goods.	Silks and silk waste.	Silk goods.	Clothing and under-garments.
	Met. cent	*Met. cent.*	*Met. cent.*	*Met. cent.*
1879	49,338	9,931	1,423	13,836
1880	43,676	10,199	1,626	13,557
1881	53,637	11,090	1,903	14,577
1882	52,840	6,418	2,929	12,120
1883	46,680	9,965	3,512	11,917
Total	246,171	47,603	11,393	66,007
1884	50,822	8,881	3,563	13,070
1885	46,761	9,886	3,820	13,459
1886	53,393	10,071	5,193	16,226
1887	47,940	9,175	7,301	13,615
1888	47,752	12,274	6,254	14,496
Total	24,668	50,267	26,131	70,866
Average:				
1879–'83	49,234	9,521	2,279	13,201
1884–'88	49,334	10,053	5,226	14,173
1889	51,800	13,262	5,858	12,300
First 10 months of 1890	45,558	11,620	4,436	10,467

*Including 14,407 metre centners of jute goods and 11,341 metre centners of ropes of different fibers.

The exports of Austria-Hungary, which Empire is essentially an agricultural country, include all the products of agriculture, of forestry, and of the mines. The amount of export is growing from year to year, and in 1889 a special increase was noticed.

Table showing the other exports of Austria-Hungary from 1879 to October 31, 1890, inclusive.

Year.	Paper.	Leather.	Leather goods.	Wooden ware.	Brushes, etc.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*
1879	181,375	11,304	15,972	298,037	1.540
1880	219,819	10,112	17,825	332,393	1,593
1881	239,174	12,733	20,538	329,708	1,674
1882	218,914	11,470	22,360	330,035	1,874
1883	256,907	14,270	21,282	286,008	1,947
Total	1,116,189	59,889	97,977	1,576,881	8,628
1884	285,600	12,260	21,389	281,100	2,315
1885	350,023	11,110	21,222	279,822	2,034
1886	329,190	11,598	23,482	287,711	2,069
1887	361,220	8,755	22,767	280,613	1,788
1888	377,098	8,433	25,972	289,861	3.246
Total	1,703,131	52,166	114,832	1,419,107	11,452
Average:					
1879-'83	223,238	11,978	19,595	315,236	1,726
1884-'88	340,626	10,433	22,966	283,821	2,291
1889	*338,305	9,618	25,614	323,408	3,196
First 10 months of 1890	†328,513	9,005	17,185	313,774	3,265

Year.	Basket ware.	Paper goods.	Caoutchouc goods.	Bone goods.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*
1879	3,843	18,631	1,369	2,488
1880	3,336	15,660	1,311	5,202
1881	2,861	20,799	2,090	4,318
1882	2,973	19,262	1,612	5,171
1883	3,256	21,618	2,096	4,256
Total	16,269	95,970	8,478	21,435
1884	3,041	22,441	2,327	3,613
1885	2,512	22,273	1,524	2,941
1886	2,635	23,865	1,430	2,646
1887	2,838	24,987	2,088	2,468
1888	2,800	26,682	2,329	2,758
Total	13,026	120,248	9,698	14,426
Average:				
1879-'83	3,254	19,194	1,696	4,287
1884-'88	2,605	24,050	1,940	2,885
1889	2,829	26,530	1,146	2,717
First 10 months of 1890	5,052	22,548	1,848	2,215

* Not including 296,511 metre centners of pulp.

† Not including 262,658 metre centners of pulp.

Though Austria-Hungary sends a great deal of barley and malt to foreign countries, yet it does not raise a sufficient quantity of maize and rye for its own use. Vegetables are exported even to America.

Austria-Hungary takes the lead of the sugar-exporting countries of Europe and holds a prominent place in the export of flour, wines and liquors, beer, butter, ceresin, raw materials, wax, skins, fowls' eggs, feathers, mineral water, fresh fish, fowl and game, flax, hemp, and wool.

The quantities exported from 1879 to October 31, 1890, inclusive, of the principal articles just named were as follows:

Year.	Sugar.	Flour.	Wine.	Beer.	Liquors.	Wool.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*
1879	2,055,000	2,423,000	435,000	348,000	189,000	76,000
1880	2,342,000	1,301,000	906,000	307,000	205,000	120,000
1881	2,760,000	1,222,000	438,000	318,000	221,000	95,000
1882	2,282,000	1,816,000	410,000	326,000	150,000	97,000
1883	2,604,000	1,872,000	407,000	356,000	295,000	123,000
Total	12,043,000	8,634,000	2,596,000	1,655,000	1,060,000	511,000
1884	3,242,000	1,530,000	451,000	362,000	181,000	114,000
1885	2,414,000	1,500,000	581,000	368,000	262,000	92,000
1886	2,418,000	1,424,000	799,000	385,000	142,000	129,000
1887	2,229,000	1,283,000	705,000	405,000	87,000	66,000
1888	2,360,000	2,061,000	1,028,000	411,000	35,000	90,000
Total	12,663,000	7,728,000	3,564,000	1,931,000	707,000	491,000
Average:						
1879–'83	2,409,000	1,827,000	519,000	331,000	212,000	102,000
1884–'88	2,543,000	1,566,000	713,000	386,000	141,000	98,000
1889	2,970,000	1,761,000	821,000	471,000	214,000	130,000
First 10 months of 1890	3,106,000	1,066,000	564,000	470,000	258,000	117,000

BEET SUGAR IN AUSTRIA-HUNGARY.

The cultivating of the sugar beet is of the greatest moment to the rural economy of Austria, and is now beginning to gain ground in Hungary, too, as the Hungarian Government, cognizant of the importance of beet-root culture for the conservation of the soil, is resolved to further the establishing of sugar factories in Hungary in every manner possible.

During the last two decades the produce of the Austro-Hungarian sugar factories has attained no mean place among the market articles of the world. In 1869 raw sugar first began to become an article of export from Austria to Holland, England, and also to Germany. Up to 1874 the home production of the last-named country was not sufficient to cover its home consumption. The export of sugar has increased from year to year. The following table shows the export of sugar from Austria-Hungary for each month in 1889 and 1890:

Month.	1890.	1889.
	Metre cent.	*Metre cent.*
December		418,309
January	321,532	243,246
February	288,164	173,119
March	438,593	140,284
April	311,200	153,222
May	327,467	238,325
June	278,217	221,6[illegible]
July	236,809	182,[illegible]
August	221,948	54,[illegible]
September	108,465	[illegible]
October	558,158	461,41[illegible]
November	501,207	666,70[illegible]

Beet-root sugar has made its way, also, into the United States, and from the time of its being admitted free of duty (April 1, 1891) it will become an article of steadily growing importance.

The value of beet-root sugar exported from Austria-Hungary to the United States was as follows:

Year.	Value.	Year.	Value.
1885	$7,136.46	1888	$403,392.94
1886	273,597.49	1889	305,343.92
1887	35,816.66	1890	3,585,812.52

For the quarter ending December, 1890, the value of the beet-root sugar exported to the United States alone amounted to $1,751,429.11, against $305,343.92 for the 12 months of the calendar year 1889.

In the course of the past year, owing to the Magdeburg sugar ring (broken up in July), prices were subject to very considerable fluctuations, as will be found from the following statement of prices for first product of raw sugar, free to the Bohemian frontier (off Aussegg), per 100 kilogrammes (221½ English pounds), 88 per cent. polarization, bagged gross weight for net (without inland taxes):

Date.	Price.	Date	Price.
	Florins.		*Florins.*
January 1	17.10	March 15	19.60
January 15	17.00	April 1	21.75
February 1	17.00	April 15	23.00
February 15	17.50	May 1	26.59
March 1	18.80	May 15	28.00

Thus, by the machination of the Magdeburg sugar ring, prices for raw sugar had been driven up so as to reach the price for loaves; and on May 25 there was a transaction for 500 metre centners of raw sugar at 31.50 florins, exceeding considerably even the price quoted for double loaves.

By the middle of May the supplies of "prompt" raw sugar in Austria had totally run out, and from that time forward there were no quotations for "prompt good," but only of such of the new harvest of 1889–'90, and these quotations, at the same terms as cited above, were as follows in 1889:

Date.	Price.	Date.	Price.
	Florins.		*Florins.*
June 1	17.50	October 1	15.00
June 15	19.00	October 15	14.75
July 1	20.00	November 2	14.90
July 15	18.20	November 15	14.60
August 1	17.70	December 1	14.50
August 15	18.20	December 16	14.10
September 1	17.10	December 31	14.00
September 15	17.50		

The Austro-Hungarian sugar factories reaped great advantage from the movement of prices in so far that, after having disposed of their first products, very high prices were received for their after products, and they were enabled to realize brilliant transactions for the harvest of 1889–'90, to the amount of more than 200,000,000 metre centners, at prices varying from 17.50 to 20 florins.

For the harvest of 1888–'89 there were working in Austria-Hungary 215 sugar factories and refineries, to wit: Bohemia, 158; Moravia, 50; Silesia, 9; Lower Austria, 3; Hungary, 14. Their number remained unchanged during the harvest of 1889–'90.

The harvest of 1889–'90 showed the produce to be 555,000 tons of raw sugar; the present harvest is estimated at 720,000 tons.

During the harvest just ended sugar beets, being of excellent quality, containing 15 to 18 per cent. of saccharine matter, and with a yield of 200 to 300 metre centners per hectare, have proved a highly remunerative crop to agriculturists. Sugar beets were contracted for with growers at the price of 1.10 to 1.25 florins (prices varying according to location) and above. Besides the price agreed on between the sugar manufacturer and the beet-grower, the latter receives gratis the seed for sowing from the sugar manufactory he enters into contract with, and, furthermore, a quantity of beet cuttings for fodder in proportion to the quantity of beets delivered. These allowances answer to an equivalent of 8 kreutzers per metre centner of beets. At present 90 kreutzers to 1.10 florins is offered per metre centner of beets for the next harvest without having led to any large transactions; and it appears as if the growing of sugar beets for the next harvest is to be considerably reduced.

CHEMICAL INDUSTRY.

Table showing the exports of chemical products from 1879 to October 31, 1890, inclusive.

Year.	Cooking salt.	Chemicals.	Chemical products.	Candles.	Soap.	Matches.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*	*Metre cent.*
1879	367,078	207,560	57,717	5,238	6,551	56,420
1880	288,350	219,252	49,200	4,584	4,955	50,902
1881	265,920	274,829	51,702	4,916	5,113	59,661
1882	300,114	235,131	57,355	4,824	5,160	73,566
1883	251,698	227,620	66,023	6,703	5,168	83,077
Total	1,473,160	1,164,392	281,997	26,265	26,947	323,626
1884	206,144	192,981	68,786	7,071	5,725	92,063
1885	167,175	239,315	76,690	6,072	5,851	97,807
1886	143,955	257,350	78,541	5,194	7,532	93,752
1887	69,489	263,757	79,987	2,880	6,117	76,585
1888	115,089	23,073	86,363	2,714	9,595	89,059
Total	701,852	1,184,476	390,367	23,931	33,820	449,266
Average:						
1879–'83	294,632	232,878	56,399	5,253	5,389	64,725
1884–'88	140,371	236,895	78,073	5,186	6,764	89,853
1889	155,051	257,328	95,816	3,148	9,378	78,140
First 10 months of 1890	49,357	210,136	76,288	1,766	8,212	73,654

NOTE.—1 metre centner=221½ pounds.

VALUE OF EXPORTS, 1879-'88.

The following table shows the value of the Austro-Hungarian exports of raw materials and of manufactured articles from 1879 to 1888:

Year.	Raw material.	Manufactured articles.	Total.
	Florins.	*Florins.*	*Florins.*
1879	305,400,000	378,600,000	684,000,000
1880	304,800,000	371,200,000	676,000,000
1881	339,300,000	392,200,000	731,500,000
1882	381,800,000	400,100,000	781,900,000
1883	348,900,000	401,000,000	749,900,000
Total	1,680,200,000	1,943,100,000	3,623,300,000
1884	307,700,000	383,800,000	691,500,000
1885	304,300,000	367,800,000	672,100,000
1886	316,700,000	381,900,000	689,600,000
1887	313,700,000	359,200,000	672,900,000
1888	355,500,000	373,300,000	728,800,000
Total	1,597,900,000	1,866,000,000	3,463,900,000
Average:			
1879-'83	336,100,000	388,600,000	724,700,000
1884-'88	319,600,000	373,200,000	692,800,000

The increase in the export of costly and expensive articles is larger than that of cheap goods. This is due to the high tariffs of most countries, which prevent the importation of cheap wares but do not affect articles of value. This is especially noticeable in regard to glassware, porcelain, fancy goods, and metal ware.

The future of the Austro-Hungarian export lies in the development of its art industries. Not quantity, but quality, must determine the success of its articles and the extent of its trade.

IMPORTS FROM THE UNITED STATES.

The following table gives the value of the chief articles imported into Austria-Hungary from the United States for the fiscal year 1888-'89:

Articles.	Value.	Articles.	Value.
Cotton	$275,275	Turpentine	$16,829
Machines:		Paraffine, etc	4,144
Agricultural	12,325	Fancy goods	8,151
Sewing	1,111	Wood, cut	10,264
Mineral oil:		Other wares	11,247
Crude	241,924	Total	720,815
Refined	50,941		
Resins and gums	77,464		

From a comparison of the two preceding statements of import, the fact will strike the reader that in more than 1,000,000 metre centners of cotton the United States participates to the amount of only $275,275. This, however, is explained by the fact that of the 100,000 to 150,000 bales of American cotton introduced into this country the greater part is imported by way of Germany and England, as there is no direct line of connection between the United States and the seaports of Austria-Hungary.

IMPORTS OF AUSTRIA-HUNGARY.

The following table shows the articles inported into Austria-Hungary during the years 1886–'89. Imports of less than 100,000 metre centners in 1889 are summed up under "miscellaneous."

Articles.	1886.	1887.	1888.	1889.
	Metre cent.	*Metre cent.*	*Metre cent.*	*Metre cent.*
Mineral coal and coke	27,212,790	28,747,564	32,635,859	34,440,812
Cotton, cotton waste, and wadding	975,660	1,151,704	1,039,613	1,117,209
Iron and ironware	919,577	750,275	940,101	1,171,101
Grain	2,504,821	2,156,311	938,228	1,051,810
Wood	1,800,585	1,517,031	1,526,245	1,585,171
Mineral oils:				
Crude	928,021	891,862	1,074,599	1,188,379
Refined	360,444	241,142	127,974	146,875
Cabinet wood	1,155,238	890,570	967,303	1,112,403
Iron, crude	547,648	491,384	628,300	811,342
Earthenware	715,741	724,710	657,832	625,330
Chemicals	490,387	485,832	488,481	535,945
Maize	1,052,947	838,451	560,694	554,976
Wood for fuel	630,599	615,640	505,787	448,353
Dyes and articles for tanning	393,469	398,120	375,117	426,592
Rice	585,912	636,189	502,983	593,062
Oranges, lemons, figs, etc	312,704	336,107	445,538	457,805
Coffee	375,594	319,382	344,857	346,163
Machines	215,452	230,078	252,552	314,349
Hardware	247,737	223,439	270,100	239,678
Fats of all kinds	192,425	224,450	209,395	229,308
Flax and hemp	301,276	303,191	307,731	281,361
Oats	170,856	195,207	113,398	246,409
Gums and resins	249,045	278,201	260,302	287,961
Metals	220,827	241,722	180,022	249,361
Oils, fat	197,349	229,038	193,184	200,923
Salt	219,690	218,003	214,028	213,588
Wool	226,451	268,009	245,875	286,177
Cotton yarn	111,644	110,061	98,356	110,250
Scrap iron	124,192	35,452	41,701	120,081
Victuals	207,139	215,716	158,422	156,094
Hides and skins	193,445	202,986	200,169	188,128
Cocoa and palm oil	87,550	98,201	101,371	111,026
Wooden ware	87,899	87,865	107,179	124,896
Jute	160,951	157,692	225,356	197,378
Potatoes	229,803	224,890	231,226	188,005
Oilseed	50,553	58,695	131,187	136,577
Oranges	75,767	84,819	166,572	173,095
Tobacco	146,147	160,695	131,070	124,562
Zinc	131,505	127,494	95,229	103,410
Miscellaneous	1,238,996	1,298,073	1,064,020	1,160,392

AUSTRIAN INDUSTRIES.

The rich harvests of 1889 and 1890 and the rising prices on all articles of trade tended greatly to the development of Austro-Hungarian industries.

Ceramic and glass.—The ceramic and glass industry shows a year of great prosperity, and the advantages resulting from the development of the artistic sense by schools of art are clearly manifested, as Austrian wares are greatly sought after in foreign markets and are sold at high prices.

Wood.—Of these industries, which are furthered by the great abundance of suitable material in this Monarchy, the manufacture of bent-wood furniture holds the most prominent place and forms an article of export which increases from year to year. Articles carved out of wood, bone, horn, etc., are growing in importance and form a welcome source of income to the indigent inhabitants of the Erzgebirge and of the Alps of Salzburg and Tyrol.

Wool.—This is classed among the oldest industries in this Empire, and in these latter years has furnished employment for 60,000 workmen.

The general strike last year led to some improvement in the wages of the workmen.

In Austria there are 10 spinning mills for worsted with 240,000 spindles, 450,000 spindles for yarn, 6,800 power looms and 11,000 hand looms for woolens, and 12,500 power looms and 9,000 hand looms for worsted goods.

Turkish caps, or fezzes, are exported in great quantities. They are manufactured on a large scale in western Bohemia and in the northern part of Moravia.

Cotton.—This industry is represented in Austria by about 650 factories with 2,000,000 spindles and 5,000 power looms, giving employment to 100,000 hands. Besides these there are 2,900 small factories with hand looms.

Paper.—Paper-making is on the increase, which is principally due to the founding of new paper mills for wood and straw paper.

Domestic trade.—Domestic trade in Austria-Hungary, owing to the good harvest of 1888, started under favorable auspices, but received a check by the poor harvest of 1889, when it abated considerably, which caused great complaint among the tradespeople, who were especially dissatisfied with the Christmas season.

HUNGARIAN INDUSTRIES.

The development of industrial arts in Hungary, with the exception of mill industry, is rapidly progressing, not only on account of an increased amount of work on the part of the old, but more especially by the founding of new, factories.

The wool industry of Hungary is still in its infancy. The Hungarian Government recently entered upon a compact with Adolf Löw & Son, at Brinn, the largest manufacturing firm in Austria, by which that house is pledged to erect a woolen factory in Hungary with a capital of 1,000,000 florins. The Government fosters the undertaking by certain privileges, such as exemption from all taxes for 20 years to come.

In 1889 the following factories were built: One for the manufacture of arms, at Buda-Pesth; 1 for worsted goods, at Waitzen; 6 large sugar refineries, at Mezehögyes, Syerenes, Silyp, Bothfalva, Hatvan, and Temesvar; the International Electric Light Company, a factory for nails and screws, 1 for agricultural machines, a stock company for building enterprises; a paper mill, at Yenica; a factory for chemicals; 1 for cognac, at Kaposvar; 1 for barrels and boxes, at Fiume; 1 for paraffine, at Szamos-Udvarhely.

There are now in course of erection 2 large cloth manufactories, a machine shop, a factory for wire tacks, a brewery, and a factory for artificial manure.

All these undertakings enjoy certain privileges, such as (1) exemption from all taxes for a certain number of years; (2) dispensation from any dues for stamps or registration, as prescribed by law, for the purchase of real estate; (3) stock companies formed for one of the aforesaid purposes are freed from the use of stamps or from the payment of any dues for contracts, shares, and documents; (4) new industrial undertakings may be supplied with impure salt for industrial purposes at a price lower than that prescribed by the law of the country.

A bill has recently been passed by the Hungarian Parliament which provides for the advancement of manufacturing industry in Hungary.

VIENNA INDUSTRIES.

Of the many articles made in this city the following may be mentioned:

Fancy goods.—Fancy goods play the most prominent rôle among Vienna specialties and can not be competed with elsewhere. Under this heading are included bronze goods, leather ware, trunks and valises, canes and umbrella sticks, fancy metal ware, pearl buttons, harmonicas, meerschaum and amber, fans, umbrellas, and parasols.

Bronze goods.—Bronze goods are unsurpassed, and the exquisite novelties which the manufacturers produce in this line season after season seem to be endless. The United States, the El Dorado of Viennese art industries, has levied a heavy duty upon this article. The export to Spain and Italy has fallen off somewhat; but, on the other hand, the trade with South America has increased. There is also a large amount annually sent to Russia and France.

Leather industry.—The past year may be called favorable to the leather industry. The various novelties in this line, such as albums, cardcases, pocketbooks, cigar and cigarette cases, photograph cases, writing cases, etc., are exquisite. Articles made of pressed leather are especially noted.

Canes and umbrella sticks.—The manufacture of canes and umbrella sticks has been very successful. These goods find a ready sale in every country of the world's market; but, in spite of many circumstances favorable to the export of these articles, a spirit of discontent prevails among the small manufacturers, for any success in this industry seems chiefly to benefit only the large manufacturers. In this branch, as in many others, house industry can not compete with large manufacturing establishments. Canes and umbrella sticks are admitted into the United States free of duty.

Fancy metal ware.—This industry has been suffering from overproduction, but is somewhat reviving now.

Pearl buttons.—So much has been written about the mother-of-pearl industry that there remains very little to be said about it. For years past that industry has been most prosperous, and the export of pearl buttons to the United States amounted to millions of florins a year. The new tariff law has put a check upon this large export, and, in order that the mother-of-pearl workers might not be starved, the large manufacturers and exporters of Vienna have turned their attention to other articles in this line and are depending more upon domestic trade than formerly.

A mother-of-pearl exhibition recently opened in this city shows the various designs made of pearl and the many purposes for which it may be used, as for paper knives, inkstands, lamp shades, hair ornaments, and trimmings for dresses, cloaks, hats, etc. Orders for better grades of pearl buttons are, however, soon to be expected, in spite of the high tariff.

Fans.—Fans are a very important article of trade. Paris and London are the principal markets. Fans are made of all sizes and varieties, of feathers, silk, or lace, plain or hand painted. The sticks are of wood, pearl, or tortoise shell.

Parasols and umbrellas.—These are exported to a great extent and are much sought after, owing to the many varieties of silks and the uniformity of handles.

Other industries of importance besides that of fancy goods are:

Silks and velvets.—These goods are sent in large quantities to all foreign markets, and especially to the United States.

Glove industry.—This has not been very successful during the past year, partly owing to the dearness of raw material and partly to a depression of the prices allowed by English and American importers for the ready-made article. However, in spite of the good material and the neat and tasteful make of this article, it has of late shown no advancement.

Artificial flowers and feathers.—The export of these shows a decided reduction, due to the high tariffs of Roumania and Russia and to the competition of other countries. Great quantities are made here, and, though cheap, are very beautiful.

Soaps and perfumes.—These hold their own, in spite of French competition, and are exported to a great extent. A special kind of toilet soap called "fruit soap" is sent in large quantities to the Orient.

Cognac and champagne.—This industry, though only recently established here, is growing in importance and will soon compete with that of France. As yet prices are quite moderate.

Furniture.—This industry occupies a prominent place among Vienna manufactures, but of late it has become very unsatisfactory, and chiefly on account of the high tariffs of Roumania.

Brushes.—The export of brushes has not varied and is chiefly directed to the Orient, India, Spain, and the United States.

AUSTRIAN MINES AND FURNACES.

The total value of the product of mines in Austria for 1889, as shown by the statistical year book of the Austrian ministry of agriculture, was 58,939,809 florins, an increase of 4,976,028 florins, or 9.22 per cent., as compared with 1888.

The value of the product of furnaces for the same period was 32,748,497 florins, or 6.62 per cent. increase as compared with 1888. Crude iron contributed 72 per cent. to the total of the value.

The total value of the Austrian product of mines and smelting furnaces for 1889, the value of ore before smelting not included, was 78,806,679 florins, of which 46 per cent. was produced in Bohemia, 14 per cent. in Styria, 14 per cent in Silesia, and 9 per cent. in Moravia, and the value of each of the different products representing the total value and their percentage were as follows:

Table showing the value of the product of mines and furnaces, with percentage of total.

Products.	Value.	Percentage of total.
Mines.	*Florins.*	
Anthracite coal	26,647,937	45.21
Bituminous coal	22,861,112	38.79
Silver ore	3,130,016	5.31
Iron ore	2,487,873	4.22
Lead ore	1,137,547	1.93
Mercurial ore	850,052	1.44
Graphite	702,123	1.19
Zinc ore	432,910	0.74
Copper ore	313,699	0.53
Sulphur ore, alum, and vitriol	162,767	0.28
Other ores and minerals	213,773	0.36
Total	58,939,809	
Furnaces.		
Pig-iron	23,577,454	72
Silver	3,198,420	9.77
Lead and litharge	1,770,003	5.4
Quicksilver	1,537,015	4.69
Zinc	1,101,028	3.36
Copper	583,638	1.78
Sulphuric acid and oleum	522,356	1.6
Green vitriol and alum	146,687	0.45
Other metals and smelting products	311,896	0.95
Total	32,748,497	

The amount of salt produced was 312,956 metre centners, valued at 21,575,855 florins, and chiefly from Upper Austria, Salzburg, and Galicia.

In Austria there were at work 642 mining undertakings and 107 furnaces, the former giving employment to 100,497 hands, the latter to 13,461, making a total of 113,958 hands, of whom 101,694 were men, 6,683 women, 5,330 youths, and 251 children.

Table showing the number of employés in the anthracite coal mines in the various crown lands in 1889.

Crown land.	Mines.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	90	17,773	1,273	1,244	176	20,466
Lower Austria	10	524	3	4		531
Upper Austria	13	1				[illegible]
Salzburg	17					
Moravia	13	4,782	413	275		5,470
Silesia	17	14,431	11,613	1,452	10	17,506
Styria	1	4				4
Galicia	3	1,700	110	[illegible]		1,838
Total	134	39,215	3,412	3,003	186	45,816
Total in 1888	138	37,711	3,264	2,637	18	43,630
Increase		1,504	148	366	168	2,186
Decrease	4					

Table showing the number of employés in the bituminous coal mines in the various crown lands in 1889.

Crown land.	Mines.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	187	19,687	648	330		20,665
Lower Austria	1	28				28
Upper Austria	4	1,148	75	131		1,354
Moravia	8	461	[illegible]	13		479
Silesia	1	2	1			3
Styria	56	8,698	834	274	1	9,807
Carinthia	10	466	69	6		541
Tyrol	1	238	14	32		284
Vorarlberg		3				3
Carniola	8	640	12	39		691
Dalmatia	4	197	27	3		227
Istria	1	980		56		1,036
Galicia	4	136				136
Total	285	32,684	1,685	884	1	35,254
Total in 1888	289	30,642	1,773	728	153	33,296
Increase		2,042		156		1,958
Decrease	4		88		152	

Table showing the number of employés in the iron-ore mines in the various crown lands in 1889.

Crown land.	Mines.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	18	1,069	....	26	....	1,095
Lower Austria	3	63	6	....	....	69
Salzburg	1	52	....	....	....	52
Moravia	7	252	1	18	....	271
Silesia	3	48	....	....	....	48
Styria	11	2,285	23	130	....	2,438
Carinthia	2	576	....	....	....	576
Tyrol	3	54	....	....	....	54
Carniola	5	190	....	15	....	205
Galicia	6	116	27	....	11	154
Total	59	4,705	57	189	11	4,962
Total in 1888	55	4,256	43	100	5	4,404
Increase	4	449	14	89	6	558

Table showing the number of employés in the other mines (salt mines not included) in the various crown lands in 1889.

Crown land.	Mines.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	45	7,273	122	268	....	7,663
Lower Austria	6	48	....	....	....	48
Salzburg	4	406	....	12	4	422
Moravia	12	188	26	28	....	242
Silesia	2	19	....	....	....	19
Bukowina	1	100	8	68	36	212
Styria	22	260	49	10	....	319
Carinthia	17	1,625	509	119	11	2,264
Tyrol	34	871	29	47	....	947
Carniola	11	1,163	95	81	....	1,339
Dalmatia	2	5	....	....	....	5
Galicia	8	637	323	25	....	985
Total	164	12,595	1,161	[illegible]	51	14,465
Total in 1888	155	12,214	957	1,144	16	14,331
Increase	9	381	204	....	35	134
Decrease	....	....	....	486	....	....

Table showing the total number of employés in mines (salt mines not included) in the various crown lands in 1889.

Crown land.	Mines.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	340	45,802	2,043	1,868	176	49,889
Lower Austria	20	663	9	4	....	676
Upper Austria	4	1,149	75	131	....	1,355
Salzburg	5	458	....	12	4	474
Moravia	40	5,683	445	334	....	6,462
Silesia	23	14,500	1,614	1,452	10	17,576
Bukowina	1	100	8	68	36	212
Styria	90	11,247	906	414	1	12,568
Carinthia	29	2,667	578	125	11	3,381
Tyrol	38	1,163	43	79	....	1,285
Vorarlberg	....	3	....	....	....	3
Carniola	24	1,993	107	135	....	2,235
Dalmatia	6	202	27	3	....	232
Istria	1	980	....	56	....	1,036
Galicia	21	2,589	460	53	11	3,113
Total	642	89,199	6,315	4,734	249	100,497
Total in 1888	637	84,823	6,037	4,609	192	95,661
Increase	5	4,376	278	125	57	4,836

Table showing the number of employés in the smelting works for crude iron in the various crown lands in 1889.

Crown land.	Works.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	7	5,319	26	240	....	5,585
Lower Austria	3	227	5	....	....	232
Salzburg	1	153	....	17	....	170
Moravia	7	2,002	138	164	....	2,304
Silesia	4	1,083	....	62	....	1,145
Styria	16	1,021	49	12	....	1,082
Carinthia	4	393	19	6	....	418
Tyrol	2	192	1	11	2	206
Carniola	5	195	7	12	....	214
Galicia	1	31	....	....	....	31
Total	50	10,616	245	524	2	11,387
Total in 1888	48	10,270	233	404	2	10,909
Increase	2	346	12	120	....	478

Table showing the number of employés in the smelting works for other crude metals and smelting products in the various crown lands in 1889.

Crown land.	Works.	Working people.			
		Men.	Women.	Youths.	Total.
Bohemia	31	854	43	35	932
Salzburg	3	124		2	126
Styria	2	149	1		150
Carinthia	9	150	4		154
Tyrol	5	66		3	69
Carniola	5	368	15		383
Galicia	2	168	60	32	260
Total	57	1,879	123	72	2,074
Total in 1888	58	1,941	144	48	2,133
Increase				24	
Decrease	1	62	21		[illegible]

Table showing the total number of employés in smelting works in the various crown lands in 1889.

Crown land.	Works.	Working people.				
		Men.	Women.	Youths.	Children.	Total.
Bohemia	38	6,173	69	275		6,517
Lower Austria	3	227	5			232
Salzburg	4	277		19		296
Moravia	7	2,002	138	164		2,304
Silesia	4	1,083		62		1,145
Styria	18	1,170	50	12		1,232
Carinthia	13	543	23	6		572
Tyrol	7	258	1	14	2	275
Carniola	10	568	[illegible]	12		597
Galicia	3	199	60	32		291
Total	107	12,495	368	596	2	13,461
Total in 1888	106	12,211	377	452	2	13,042
Increase	1	284		144		419
Decrease			9			

The working people employed in the mining of salt numbered 10,005, of whom 6,372 were men, 1,127 women, 1,141 youths and 1,063 children.

The wages earned by miners, etc., will be mentioned under the head of "labor and wages." Of the 113,958 working people engaged in mines and furnaces in Austria, 192 were killed and 270 severely wounded during the year past.

MINE STATISTICS OF THE WORLD.

From a work by Henry Couriot, entitled "l'Industrie des mines en France et à l'étranger," the following statistics are taken:

Table showing the world's mine products.

Products.	Quantity.	Value.
	Tons.	*Francs.*
Metals:		
Iron	23,512,000	1,624,374,000
Gold	(*)	549,500,000
Silver	†4,000	764,800,000
Copper	341,000	541,664,000
Lead	517,000	199,859,000
Zinc	344,000	151,644,000
Tin	35,000	98,626,000
Mercury	4,000	22,103,000
Nickel, cobalt, platinum, antimony	3,000	15,176,000
Total	24,760,000	3,967,746,000
Nonmetals:		
Coal	466,406,000	3,412,000,000
Petroleum	5,712,000	264,643,000
Bituminous slate and asphaltum	2,499,000	20,430,000
Rock salt, etc	8,347,000	125,356,000
Manganese, pyrites, sulphur, etc	1,215,000	50,022,000
Total	508,939,000	7,780,197,000
Building material		800,000,000
Precious stones		300,000,000
Total		8,880,197,000

* 146,225 kilogrammes. † 3,720,951 kilogrammes.

Thus it will be seen that coal represents above 40 per cent. of the whole value, and that in 1888 the production of precious metals, which once constituted the greatest source of wealth, did not amount to one-eleventh of the value of the coal produced.

Table showing the coal fields of the world and their output.

Countries.	Area.	Quantity of coal produced.	Average price per ton.	Total value.	Working population.	Consumption of coal per head of population.
	Kilometres.	*Tons.*	*Francs.*	*Francs.*	*Number.*	*Tons.*
United States	490,700	132,548,844	8.07	1,200,000,000	283,125	2.945
England	33,000	169,935,219	6.35	1,079,000,000	524,945	4.55
Germany	31,000	81,873,848	5.82	477,000,000	258,388	1.6
Russia	28,300	4,580,223	8.00	37,000,000	33,000	0.07
France	5,581	22,602,894	10.31	233,000,000	104,959	0.854
Austria-Hungary	2,600	23,647,000	5.23	124,000,000	97,200	0.625
Belgium	1,350	19,218,481	8.43	162,000,000	103,477	2.4
Other countries	10,000	12,000,000	8.30	100,000,000	60,000	
Total	602,531	466,406,509	7.08	3,412,000,000	1,475,094	0.325

Deaths in coal mines.—In England there were the following number of deaths resulting from accidents in coal mines during these last four decades: Of 100,000 workmen the annual deaths from accidents were, from 1851 to 1860, 407; from 1871 to 1880, 233; and from 1881 to 1887 there were but 199; thus showing a reduction of more than one-half.

In other European countries there occurred the following number of deaths from accidents in coal mines per annum per each 100,000 workmen: In Saxony, 339; Prussia, 273; Belgium, 232; Austria, 230; England, 199; and France, 156.

PUBLIC DEBT.

Debt common to both Austria and Hungary.

	Florins.
Amount on June 30, 1889	2,442,568,483.83
Common floating debt (bank notes at 1, 5, and 50 florins, redeemable by Government and in circulation on June 30, 1889)	313,209,578.00
Consolidated debts:	
Unredeemable	2,129,322,905.83
Redeemable	262,774,484.00
Floating debt, inclusive of the so-called "Partial Hypothecar-anweisungen"	100,084,877.89½
Amount of capital for indemnity of bonds	11,960,471.10
Amount of capital for payment to the Bavarian Government	1,750,000.00

The annual requirement for interest and bonds (taxes deducted) is 115,909,783.89 florins, to which, according to a financial agreement between Austria and Hungary, the latter contributes the amount of 29,188,000 florins, besides another amount of 1,150,000 florins for interest on and redemption of a loan contracted by a former government.

The revenues are chiefly derived from direct taxes, excise duties, revenue-stamp tax, monopolies, and receipts from public works and domains in each of the two parts of the Empire, and will be stated under the head of "finances" in the budgets for Austria-Hungary, for Austria, and for Hungary.

Public debt of Austria.

		Florins.
Total on June 30, 1889		1,057,354,334.64½
Annual requirement for interest (after the deduction of taxes):	Florins.	
In bank notes	13,433,170.94	
In silver	12,743,786.72	
In gold	19,903,388.00	
		46,080,345.66
Total amount of "Grundentlastungs-Schuld" of the Austrian crown lands on June 30, 1889		75,780,789.00
Requirement for interest after the deduction of 10 per cent. for taxes		3,732,951.60

Public debt of Hungary.

Total, December 31, 1887	1,545,792,269 00

More recent or general data are not obtainable here.

BUDGETS.

According to the constitution of Austria-Hungary, there are placed for consideration before the different legislative bodies three distinct state budgets for each fiscal year, to wit:

General Austro-Hungarian budget.—This is referred to a joint delegation from Austria and Hungary, and has reference to such expenditures as are defrayed in common by both, viz, expenditures for representation of the monarchies in foreign countries, for the army and navy, and for the governing of the *Reichslande* (territories) of Bosnia and Herzegovina.

For the fiscal year 1890 the provisions made for the joint government of Austria-Hungary, under the presidency of Count Kalnocky, are as follows:

Ordinary expenditures.

	Florins.
Common ministry of the exterior	4,185,100.00
Ministry of war:	
Army	98,360,820.00
Navy	9,254,877.00
Ministry of finance	2,000,963.00
Auditing and comptrolling department	128,400.00
Total	113,930,160.00

Extraordinary expenditures.

	Florins.	
Ministry of the exterior	173,400.00	
Ministry of war:		
Army	13,358,948.00	
Navy	1,889,200.00	
		15,421,548.00
Total		129,351,708.00
Less:		
Revenues from such duties as are declared common property of both realms	39,733,750.00	
Præcipium, according to convention laid to the charge of Hungary	1,792,359.16	
		41,526,109.16
Net expenditure		87,825,598.84

To this Austria contributed 61,477,919.19 florins, or 70 per cent.; Hungary, 26,347,678.65 florins, or 30 per cent. Besides this, the two dominions must furnish at the above ratio (30 and 70 per cent.) the sum of 4,370,000 florins, provided for the Austro-Hungarian army in Bosnia and Herzegovina, which territories are still considered as being under military occupation. The cost of the civil government of Bosnia and Herzegovina is met by the levying of taxes within said territories.

Budget of Austria.—This budget for the fiscal year 1890 was laid before the House of Deputies by the secretary of finance on December 3, 1889, at the same time with an ordinance to grant power for the collection of taxes according to regulations and also to concede the right of preliminary expenditures according to the Austro-Hungarian budget, as cited above. After a violent debate the proposition was passed by the vote of a very small majority.

Table showing the revenues and expenditures of Austria in 1889 and 1890.

REVENUES.

Description.	1890.			Total in 1889.
	Ordinary.	Extraordinary.	Total.	
	Florins.	*Florins.*	*Florins.*	*Florins.*
Ministerial council	718,800		718,000	722,000
Ministries:				
Interior	1,159,201		1,159,201	1,144,206
National defense	266,156		266,156	269,279
Education and religious institutions	5,900,204	39,240	5,939,444	5,783,421
Finance	429,486,513	4,636,232	434,122,745	431,197,154
Commerce	79,757,030	1,809,709	81,566,739	77,145,930
Agriculture	11,811,932	8,775	11,820,707	12,196,393
Justice	901,700		901,700	859,140
Pension fund	90,849		90,849	83,716
Subsidies and dotations		483,042	483,042	2,687,400
Public debt		10,360,611	10,360,611	10,054,715
Management of public debt	515,570		515,570	522,590
Sale of national real estate		159,140	159,140	150,000
Total	530,607,955	17,496,749	548,104,704	542,815,944

EXPENDITURES.

Court	4,650,000		4,650,000	4,650,000
Imperial bureau	74,978		74,978	73,390
Reichsrath (parliament)	722,439	28,915	751,354	710,490
Reichsgericht (court of the realm)	22,600		22,600	22,600
Ministerial council	1,042,487	3,400	1,045,887	1,042,017
Quota to general budget	96,769,719	2,997,820	99,767,539	104,656,002
Ministries:				
Interior	16,595,255	2,889,437	19,484,692	19,111,249
National defense	13,497,066	3,444,694	16,941,760	13,753,419
Education and religious institutions	20,627,548	1,164,970	21,792,518	21,424,667
Finance	84,135,878	5,042,676	89,178,554	88,383,791
Commerce	63,570,420	15,247,110	78,817,530	70,608,380
Agriculture	12,058,958	2,060,912	14,119,870	14,499,255
Justice	20,337,900	655,295	20,993,195	20,873,385
First auditor's office	167,000	700	168,400	167,700
Pensions	17,462,000	1,280	17,463,280	17,002,535
Subsidies and dotations	1,331,130	9,597,315	10,298,445	12,656,280
Public debt	143,797,135	4,826,303	148,623,303	149,239,480
Management of public debt	896,760	50,900	947,660	985,250
Total	497,759,973	48,011,727	545,771,700	540,045,885

This is the first budget during the 10 years' office of the present minister of finance which does not show a deficit, but a surplus of 2,333,004 florins, an apparent success that could not be reached but by an enormous raising of the inland duties on sugar and alcohol. As the claims of the ministry of war have been increasing with each successive year, and as these claims could not be met by the resources then existing, the public debt of Austria shows during the official term of the minister of finance an increase of 650,000,000 florins. Furthermore, the small surplus seems to be more than counterbalanced by a declaration of the minister of finance that, on the reassembling of the House, he would require for some of the different departments an additional sum of from 4,000,000 to 5,000,000 florins, a detailed account of which would then be laid before the House.

Budget of Hungary.—The following table shows the revenues and expenditures of Hungary in 1889:

Description.	Amount.
Expenditures.	*Florins.*
Court	4,650,000
Imperial bureau	73,380
Hungarian Parliament and delegation	1,253,671
Ministerial presidency	104,800
Ministries:	
Croatia and Slavonia	36,080
Court	54,020
Interior	11,525,154
National defense	9,814,121
Educational and religious institutions	6,707,788
Justice	12,095,282
Agriculture and commerce	11,639,472
Communication	43,475,523
Finance	56,699,137
Administration of Croatia and Slavonia	6,063,530
Administration of Fiume	30,130
Pensions	5,789,142
Hungarian debt	82,825,282
Redeemable mortgage	17,136,194
Quota of expenditures common to both realms	23,027,919
Quota of debt common to both realms	30,312,920
Expenditures—Continued.	*Florins.*
Auditor's office	110,100
Advance of interest to railroads	4,865,691
Total	330,656,924
Running expenditures	4,238,243
Investigations	13,238,870
Extraordinary expenditures common to both realms	8,670,245
Total expenditures	356,804,282
Revenues.	
Direct taxation	97,733,000
Interest on taxes unpaid	1,227,000
Arrears of taxes	440,000
Indirect taxation, excise duties, monopolies, etc	146,434,323
Income from national property and institutions	42,805,806
Income from other ministeries	55,216,017
Total	343,856,236
Running income	6,806,988
Total revenues	350,663,224

This shows the expenditures for 1889 to be greater by 6,141,058 florins than the revenues.

Provincial budgets.—Besides the three principal budgets specified above, each of the separate crown lands has its special crown-land budget. Of Austrian crown lands there are seventeen, and each of them has to provide for the maintenance of highroads, of the primary and middle schools (gymnasiums, schools for industry, etc.); of charitable institutions, as hospitals, asylums for the deaf and dumb, for the blind, etc.; as also for the defrayment of expenses for interest and annuities of the *Grundentlastung* (sinking fund for real estate).

The seventeen *Landesbudgets* (crown-land budgets) represent the sum of nearly 120,000,000 florins, which is collected in addition to the direct State taxation; this addition amounts to 25 per cent., or even higher.

In the same manner the separate *Landesbudget* for the Hungarian crown lands of Croatia and Slavonia is provided for by the *Landtag* (county session) common to both of these provinces.

Communal budgets.—But the claims of the State upon its subjects and the exactions burdened on the citizens do not, by any means, end with this. Thus, each separate commune is held to collect the greater part of the imposts assessed by the State and by the province or crown land and to forward the proceeds without being allowed any indemnification whatever for the work or expenses caused thereby; and, aside from the obligation of each commune of erecting and keeping in good state the buildings for schools and paying the wages of teachers and servants of primary schools, it has also to defray any expenditures arising from such middle schools as, from the initiative of the commune, have been deemed necessary of being erected.

As an illustration thereof the budget of the city of Vienna may find a place here:

	Florins.
Current expenses	19,942,120
Extraordinary expenditures	1,777,610
Total	21,719,730

The most essential items of this total are:

	Florins.
General administration	2,250,000
Interest on commune debt	4,400,000
Public works (street-paving, sewerage, etc.)	4,000,000
Public safety (police, etc.)	1,000,000
Almonry, etc	1,000,000
Sanitary administration	500,000
Markets, public places, etc	750,000
Schools, etc	4,750,000

The resources of the city consist in a revenue of about 6,000,000 florins derived from the property of the city and from administration. The remaining 15,000,000 florins are raised by a per cental addition to the rent paid for lodgings and State taxation.

BANKS AND BANKING.

The leading bank of Austria-Hungary is the Österreichisch-Ungarische National Bank (Austro-Hungarian National Bank), which is the only bank of issue for Austria-Hungary.

The statutes of this institution, its manner of doing business, etc., have before this been sufficiently dilated upon by the CONSULAR REPORTS.

The capital stock invested consists of 90,000,000 florins, the reserve funds amounting to over 20 per cent. of the capital stock.

The following figures give the status of the four principal banks of Europe for the years 1887–'91: *

Year.	Austro-Hungarian Bank.			German Reichsbank.		
	Bullion.	Notes in circulation.	Portfolio.	Bullion.	Notes in circulation.	Portfolio.
	Florins.	*Florins.*	*Florins.*	*Marks.*	*Marks.*	*Marks.*
1887	205,100,000	347,900,000	118,900,000	703,900,000	878,600,000	426,900,000
1888	241,900,000	366,000,000	130,100,000	814,100,000	[illegible]7,100,000	489,000,000
1889	234,100,000	386,700,000	130,100,000	897,800,000	9[illegible],400,000	459,700,000
1890	241,900,000	397,200,000	138,800,000	779,800,000	1,009,600,000	535,600,000
1891	244,800,000	410,600,000	139,500,000	817,200,000	958,800,000	496,200,000

Year.	Bank of England.			Bank of France.		
	Bullion.	Notes in circulation.	Portfolio.	Bullion.	Notes in circulation.	Portfolio.
				Francs.	*Francs.*	*Francs.*
1887	£20,000,000	£24,000,000	£23,700,000	2,352,900,000	2,877,500,000	701,800,000
1888	20,600,000	23,800,000	25,500,000	2,279,700,000	2,836,100,000	663,300,000
1889	21,200,000	23,400,000	25,400,000	2,220,200,000	2,737,400,000	681,200,000
1890	19,200,000	23,800,000	22,800,000	2,495,800,000	3,170,200,000	795,300,000
1891	24,200,000	24,200,000	32,600,000	2,324,200,000	3,187,500,000	1,270,200,000

Besides the Austro-Hungarian National Bank, there exist fifteen other banks, all of them in Vienna, which carry on all kinds of banking transactions, such as the receiving of deposits, granting loans on goods, stocks, and bills of exchange, lending money on mortgages, etc. The capital stock invested in these banks, the chief of which are the Credit Anstalt für Handel und Gewerbe (Credit Institution for Trade and Industry), the Länderbank, and the Bodencreditanstalt (Credit Institution for Real Estate), amounts to about 200,000,000 florins, yielding to shareholders returns varying from 5 to 12 per cent. for these latter years.

To these banks might also be added the Erste Österreichische Sparkasse (First Austrian Savings Bank), which, although established only for the purpose of receiving deposits and originally granting loans only on mortgages, has for several years back been advancing money on public securities, shares, etc., and discounting bills of exchange. This institution, founded in 1819, operates with funds deposited to the amount of 170,000,000 florins, and with reserve funds representing its capital stock of 6,000,000 florins. Notwithstanding this disproportionate showing, it is considered the safest institution of the Monarchy, on account of its operating with the greatest caution.

Throughout the Austrian provinces there exist 40 banking institutions and *Hypothekenbanken* (banks for investments on mortgages) with capital stock of 34,000,000 florins. Nearly all of them are managed in the best manner and yield to shareholders a dividend of 6 to 10 per cent.

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*Note by the Department.—For purposes of comparison the following values are given: Austria-Hungary, gold florin=48.2 cents, paper florin=42 cents; German mark=23.8 cents; French franc=19.3 cents; English pound sterling=$4.86.6½.

Besides these, there are in Austria 402 savings banks, which use their deposits only in the way of mortgaging. In accordance with their organizations, they are classified into savings banks for communities, for districts, and for associations. They operate with deposits to the amount of about 1,200,000,000 florins, while their own property, which is represented by the reserve funds, is more than 70,000,000 florins, or 6 per cent. of the dues to depositors. The insolvency of one of those savings banks is the greatest rarity.

In Hungary there is likewise a pretty brisk banking business going on at present. It should, however, be observed that the savings banks are for the greater part people's banks, with predilection for transacting bill business, whereby the security of the depositors' money is not so well guarded as it is with the savings banks of Austria. Numerous failures, called forth by the incautious granting of credit on the part of managers, have been the cause of great mischief in several of the respective localities.

In Buda-Pesth there are 15 savings banks pursuing every branch of banking transactions. The most prominent of these are the Ungarische Creditbank (Hungarian Crediting Bank), the Ungarische Bodencreditinstitut (Hungarian Institute for Credit on Real Estate), the Pester Commercial Bank (Commercial Bank at Pesth). The total capital stock invested in these 15 banks, which (according to a planned increase of capital) is about 80,000,000 florins, has, during these latter years, returned to shareholders a dividend of from 6 to 20 per cent.

In Hungarian provinces there are 148 banking associations and people's banks, besides 460 savings banks. The greater part of the latter are small banks of the people on shares, and there are some among their number the joint stock of which does not amount to more than the sum of 20,000 florins (about $8,000). But, in spite of the high rate of interest charged to credit-takers by these small provincial institutions of Hungary, they are, nevertheless, of uncommon importance to the traffic of that country, so poor in funds; and, by their promptness in granting credit, they are enabled to exercise a most beneficial influence, both on commerce and holders of small or middling-sized estates.

The total capital stock invested and divided in shares of the provincial banking institutions and savings banks is 60,000,000 florins; the sums due to depositors reach ten times that amount. The dividends paid by some of these banks are as high as 50 per cent. per annum. While, to be sure, some of them yield no dividend at all, the bulk of them pay to shareholders an average premium of 12 per cent.

The most popular institution for money transactions, and one eminently useful, is that of the Postsparkasse (Post-office Savings Bank). That institution, called into life in 1882, was principally designed to encourage a desire for economy among the population, and especially to offer the advantages of a savings bank to those parts of the country where there was no such institution established. At the same time with the Post-office Savings Bank the so-called Anweisungs-Verkehr (for clearing purposes) was organized, whose business so increased that it became necessary to separate it from the Post-office Savings Bank and to conduct it by special regulations sanctioned by the Austrian Parliament. By means of the Anweisungs-Verkehr a person holding an account is enabled to receive or make payments at any post-office throughout Austria, and at an exceedingly small charge of dues. For moneys deposited in the Post-office Savings Bank the rate of 3 per cent. is allowed; for those in the Anweisungs-Verkehr (clearing) the highest is 2 per cent.

From the sixth annual statement furnished the minister of commerce by the postal savings bank bureau, for the year 1889, the following passage is extracted:

> As is seen from this statement [for 1889], the business transactions of this bureau have been prosperous during this year, as well as in the past, and the success of the savings bank and clearing transactions surpasses by far that of the previous year. The savings-bank business, which is in a flourishing condition, has been increased again by numerous new depositors from the less wealthy classes, and the capital left with the savings bank has this year experienced a greater percentage of increase than was reached by any of the preceding years. This success justifies the anticipation of a still more favorable future.
>
> The check and clearing institution met with a brisk demand on the part of all classes of the population during the past year. The check transactions of 1889 exceeded the amount of 1,500,000,000 florins. The clearing transactions during December, 1889, represented 29.2 per cent of the total of transactions. The results of 1889 show an increase of 25 per cent. as compared with those of 1888.

The following figures show the number and state of depositors and their deposits in the Postal Savings Bank and check and clearing department:

Table showing the number of depositors and postal branch offices of the Postal Savings Bank of Austria (1884-'89).

Description.	1884.	1885.	1886.	1887.	1888.	1889
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Postal branch offices	4,118	4,172	4,[illegible]	4,356	4,455	4,548
New depositors	141,4[illegible]6	127,542	126,600	121,141	124,0[illegible]7	133,7[illegible]
Depositors withdrawn	6[illegible],7[illegible]6	62,028	65,383	65,936	65,065	67,883
Depositors:						
Savings department	426,233	4[illegible]7,[illegible]	544,931	597,708	655,335	719,341
Check department	2,[illegible]	6,[illegible]	10,553	12,981	14,2[illegible]6	16,04[illegible]
Total	4[illegible]8,7[illegible]	4[illegible]4,[illegible]7	55[illegible],4[illegible]4	610,689	669,631	735,387
Increase of depositors:						
Savings department	73,347	61,157	57,541	52,777	57,627	64,07[illegible]
Check department	2,3[illegible]	4,357	3,676	2,428	1,315	1,7[illegible]
Total	7[illegible]	65,514	61,217	55,205	58,942	65,[illegible]
Increase of members of the clearing department	1,283	3,450	2,541	1,484	1,078	1,1[illegible]

Table showing the financial condition of the Postal Savings Bank of Austria (1884–'89).

Description.	1884.	1885.	1886.	1887.	1888.	1889.
Amount of deposit during the year:	*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*
Savings department	10,434,619	14,446,207	15,706,987	15,283,133	16,016,701	18,625,680
Check department	46,223,529	263,853,688	478,691,711	611,047,898	644,072,812	754,942,445
Total	56,658,148	278,299,895	494,398,698	626,331,031	660,089,513	773,568,125
Moneys withdrawn during the year:						
Savings department	8,254,727	11,948,457	13,634,031	13,322,970	13,731,443	15,715,911
Check department	41,234,429	252,260,084	466,807,297	611,693,910	643,718,457	750,898,892
Total	49,489,156	264,208,541	480,441,328	625,016,880	657,449,900	766,614,803
Due to depositors:						
Savings department	6,181,633	8,679,383	10,752,339	12,712,502	14,997,760	17,907,529
Check department	5,098,091	16,691,695	28,576,109	27,930,097	28,284,452	32,328,004
Total	11,279,724	25,371,078	39,328,448	40,642,599	43,282,212	50,235,533
Average due:						
One savings-bank book-holder	14	18	20	21	23	25
One check-book holder	2,023	2,477	2,708	2,152	1,978	2,015
One depositor	26	51	71	67	65	68
Increase of net deposits:						
Savings department	2,179,892	2,497,750	2,072,956	1,960,163	2,285,258	2,909,769
Check department	4,989,100	11,593,604	11,884,414	646,012	354,355	4,043,553
Total	7,168,992	14,091,354	13,957,370	1,314,151	2,639,613	6,953,322

NOTE.—The clearing transactions were: In 1884, 1,620,102 florins; 1885, 40,271,880 florins; 1886, 102,185,786 florins; 1887, 150,479,085 florins; 1888, 177,846,958 florins; 1889, 216,683,155 florins.

Of every 1,000 inhabitants of Austria there were 31 depositors at the end of the year 1889 and 29 book-holders in 1888. The report of the savings banks in Austria for 1889 shows that in 300 savings banks by which an annual statement has been published 312,000,000 florins were deposited during 1889 and 279,500,000 florins withdrawn, being equal to an increase of 32,500,000 florins. The interest added to the capital amounted to 39,000,000 florins, so that the actual increase of capital is more than 71,000,000 florins. At the end of 1889 the total capital deposited in Austrian savings banks amounted to from 1,200,000,000 to 1,300,000,000 florins.

AUSTRO-HUNGARIAN CURRENCY.

A highly important financial step is now about being taken concerning the question of regulating the standard money, which was promulgated in the month of December of last year, and which is earnestly taken into consideration by the Governments of both Austria and Hungary. A short account of the standard money of this realm and of the fluctuation of legal-tender money is well worthy of being recorded.

The Austro-Hungarian Government, having to grapple with difficulties brought on by the outbreaks of 1848, decreed the compulsory acceptance as a legal tender of the bank notes issued by the National Bank, the only bank of issue for paper money, and which currency had hitherto been redeemable in silver. The shocks of the revolutionary year and the reactionary epoch succeeding resulted in depressing the value of that paper currency to a discount of nearly 70 per cent. In the endeavor to prevent any further depression the buying or selling of silver or bills at the stock exchange of Vienna was interdicted. This prohibition could scarcely be expected to bring about the desired effect, either of lessening public distrust or of removing the lack of specie. In this dilemma the guidance of the finances of the State was committed by the Government to the hands of a German merchant from Trieste—the well-known Baron Bruck—and the mere fact of that appointment seemed to strengthen public confidence. The first step of that minister of finance was to regulate the household affairs of the State. Instead of the standard money then existing of 20 florins equal to 1 zollpfund, he adopted that of 21 florins equal to 1 zollpfund, which corresponded better to the standard money of Germany. By this change silver, removed hitherto from circulation, was brought to light again; and on November 1, 1857, 2 years after the appointment of Baron Bruck, the premium for silver had disappeared entirely.

The French-Italian war in 1859 caused another discount of paper money, which, after Mr. Bruck's retirement from office, was—though in a less able manner—removed by his successor. Towards the end of 1865 the premium paid for silver was for months but 1½ to 1 per cent.

In the spring of 1866 paper currency was affected again by the gathering clouds of the Austro-Prussian war, depressing its value by 60 per cent. at the time of the outbreak of the war. The luxuriant crops of the autumn succeeding the war brought down the discount to 9 per cent., to fluctuate for a number of years afterwards between 9 and 18 per cent.

Then the Franco-German war made itself felt by raising the discount again to 40 per cent. By the establishing of gold as the standard by several great countries and by the depreciation of the price of silver in the London market the critical situation of the Austro-Hungarian currency became still more wretched, as it thereby was turned into an object for two discounts, viz, of one discount for silver and another for gold. The sinking of the price for silver, steadily progressing, led to the cessation of the coining of silver on private accounts, and the state of the circulating medium became as follows: The bank note for 1 florin redeemable in silver, at the London quotation of 117.50 florins per £10, is worth 0.863 florin in gold, whilst the value of the silver coin of 1 florin, expressed in gold, is about 8 per cent. less than that which is represented by its substitute, the paper florin; or, in other words, for 100 florins in bank notes may be had a sum in gold 8 per cent. greater than the sum in gold that can bought for 100 florins in silver coin.

However, this circumstance alone would scarcely have formed a sufficient cause for the Government to take into consideration the means of establishing a currency which would not vary in value or be subject to any fluctuation of price, had it not rather been from the motive of turning to account the apparently peaceable prospects of the present by converting the public debt in the form of "Staatsnoten" (bank notes for 1, 5, and 50 florins issued by the Austro-Hungarian National Bank, but redeemable by the State) of more than 380,000,000 florins into a consolidated debt; further, to transform the silver currency of changeable value into one of unchangeable value; and, lastly, to reduce the unit of coin—all of which objects are to be obtained in the following manner:

(1) By the taking up of a loan for the purpose of calling in the Staatsnoten and of procuring means sufficient to supplant the present currency by a circulating medium of gold.

(2) The satisfying of all obligations due by the State and by the Austro-Hungarian National Bank, and of all private obligations the payments of which have not been expressly stipulated to be effected in gold, in such a manner that for each florin of the present silver or paper currency there is to be paid 0.80 florin in gold.

(3) The unit of coin is to be like that of the French franc.

These propositions, especially the second, were prompted by the Hungarian Government, actuated by the assumption that the fixation of a course at 125 per cent., which answers to the conversion as mentioned above, would be greatly subservient to the export of grain.

Of late a representative of the Hungarian Government sojourned at Vienna in order to confer with the Austrian Government on the *modus operandi*. Select committees in both Austria and Hungary, consisting of a number of prominent merchants, manufacturers, landowners, and financiers, are to be appointed for joint deliberations by both committees and to give their opinions on the matter of regulating the standard currency.

Since writing the above the former minister of finance has vacated his office and has been succeeded by Dr. Steinbach, the new minister of finance, and more lively negotiations are at present being carried on between the Governments of Austria and Hungary in regard to the regulation of the currency question. Most of the experienced financiers, however, are of opinion that 2 years at least must elapse before the reform can be effected, and provided that the international situation will not change in such a way as to prevent it altogether, a fate which befell several previous efforts in that direction.

AUSTRO-HUNGARIAN RAILWAYS.

The construction of railways has been greatly stimulated in Austria-Hungary by a regulation on the part of the Government guarantying the payment of interest on, and the amortization of, the capital stock invested in railroads; in general, the former is guarantied by the Government with 5 per cent., the latter with one-fifth of 1 per cent. If the proceeds from the working of a railroad are not sufficient for that purpose, the deficit is advanced by the State, and the sum thus advanced is made apparent in the State's budget under the head of "subvention." With railroad lines thus subventioned the legal right is secured to the State of entering into possession of the line, or of working it, before the expiration of the usual term of 90 years, or, as the technical term expresses it, to "verstaatlichen" the line.

The total length of lines in Austria-Hungary at the end of November, 1890, was 26,268 kilometres, against 25,598 kilometres at the same period in 1889. The number of passengers conveyed from January to November, 1890, was 85,660,353, showing an increase of 16,476,496 passengers* as compared with the same period of 1889.

The following table gives the number of passengers, with the increase, for each month of 1889 and 1890:

Month.	Number of passengers.		Increase.	
	1889.	1890.	Number.	Per cent.
January	4,042,073	4,877,921	835,848	20.7
February	3,679,659	4,589,563	909,904	24.7
March	4,460,590	5,728,555	1,267,965	28.4
April	5,473,797	6,898,879	1,425,082	26
May	6,533,233	8,476,440	1,943,207	29.7
June	7,821,550	8,622,670	801,120	10.5
July	7,665,127	10,251,342	2,386,215	33.7
August	8,713,057	11,288,322	2,575,265	29.5
September	8,196,545	9,676,006	1,479,461	18
October	6,674,225	8,115,837	1,439,612	21.6
November	5,635,001	7,134,848	1,499,847	26.6

This considerable increase of the passenger traffic is due to the recent introduction of the so-called zone tariff on several lines. That tariff is mentioned more closely under the heads of "railways in Hungary," and "first year's working of the zone tariff;" and, as that tariff must gain ground with those lines of Austria-Hungary which have not yet adopted it, it is to be expected that there will be a still greater increase of traffic.

It is worthy of mention to observe the difference in the working of the zone tariff as it has been differently applied to the railroads of Austria and Hungary, for, whilst the zone tariff as introduced into the lines of the former is principally in favor of the neighboring traffic, that of the latter offers the greater advantages to the greater distance; and the results of the traffic during the 11 months of 1889–'90 show that for each increase of a passenger on the lines of Austria there is an increase of receipts of only 0.22 kreutzers, against an increase of 17½ kreutzers for each increase of a passenger on the lines of Hungary.

RAILWAYS OF AUSTRIA.

The total length of the working lines at the time of writing this is 17,960 kilometres; the capital invested about 2,835,000,000 florins.

These lines are partly the property of the State, or under its administration, and hence called "Staatsbahnen;" and the rest owned and worked by stock companies and styled "Privatbahnen." They will be separately treated under the heads of "Staatsbahnen," "Privatbahnen," and "Lokalbahnen."

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* Austria, 8,281,882; Hungary, 6,542,576; common to both realms, 1,652,038; total, 16,476,496.

*Staatsbahnen.**—Of late years the Austrian Government has built several important lines of railroad at the cost of the State.

The whole length of lines owned by the Austrian State or worked by the same amounts to 5,960 kilometres and is divided into four groups: (1) western group, including the Western, Rudolf, Franz Josef, Arlberg, etc., railroads with a total length of 3,975 kilometres; (2) Moravian Transversal, Moravian Grenz (frontier), and the Galician railways, 1,715 kilometres; (3) Istrian railroads, 165 kilometres; (4) Dalmatian railroads, 105 kilometres; total, 5,960 kilometres. The working of these lines is under the management of the general direction of the Austrian State railways. The rolling stock consists of about 1,080 locomotives, 900 tenders, 2,500 passenger cars, 700 mail cars, and 18,000 freight cars. The capital stock invested for the construction or the acquisition of the lines and for subsequent investments amounts to about 800,000,000 florins, or about 145,000 florins per kilometre of road operated. According to the reports of 1887 and 1888, there was a surplus earning of about 2.5 per cent. on the capital stock invested.

The general direction is assisted by the "Eisenbahnrath," which is a consultative committee whose members are chosen from the classes of the most influential real-estate holders, merchants, manufacturers, and agriculturists, who are nominated by the minister of commerce and proposed to the Emperor for appointment. Numerous beneficial railroad reforms owe their origin to that consultative body.

Privateisenbahnen.†—The private railroads of Austria have a length of 11,000 kilometres; the capital stock invested is 2,000,000,000 florins; the principal lines are the Staatseisenbahn (State Railroad), Südbahn (Southern Railroad), Nordwestbahn (Northwestern Railroad), and the Galician Karl Ludwigsbahn. In the total length of lines before mentioned there are included 5,925 kilometres (capital invested 1,150,000,000 florins) of railroad line that extends both over Austria and Hungary.

The results from the different railroad shares vary greatly. While several railroad companies (mostly those of less significance, as the Moravian and Prague-Dux Railroads) work their lines with a deficit in their returns and have not paid any interest to the shareholders for a number of years, the Aussegg-Teplitz Railroad, on the other hand, yields a premium of 20 per cent. and over. In general, it may be said that, with the exception of some lines, as, for instance, the Südbahn, the proceeds from solid Austrian railway shares are about from 6 to 8 per cent.

Lokalbahnen.‡—Of such lines there is at present in Austria a total length of about 1,000 kilometres, established at the cost of nearly 33,500,000 florins. The Government, however, is patronizing such undertakings by grants of money, by exemption from taxes, etc., and by every advance compatible with the security of railway traffic, though the construction of such lines is chiefly owing to the willingness of the parties adjacent.

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* Railroads owned by the Government or under its administration.

† Private railroads or railroads owned and operated by stock companies.

‡ Local railroads.

RAILWAYS OF HUNGARY.

The total length of the Hungarian railways is about 8,000 kilometres; the total capital invested has not been obtainable here. The principal feature, however, connected with these lines, and one deserving of greatest attention, is the cheap zone tariff, as introduced on the Hungarian State railways by M. Barosz, the Hungarian minister of commerce. The phenomenal success of that measure is visible from the following statement:

State railways.—The railroads of Hungary have a length of about 5,500 kilometres and a rolling stock of 750 locomotives, 650 tenders, 2,050 passenger cars, and 16,500 freight cars. The seat of the general direction is at Buda-Pesth. As to the cost for acquisition, etc., there are no official data at hand.

Zone passenger traffic.—On the 1st of August, 1889, the "Zonentarif," a wholly new system of calculating and determining the price for passengers' fare, etc., was established on all the lines owned or managed by the Hungarian Government, and the system has thus far proved so advantageous, both to the traveling public and to the profitable working of the lines, that soon after similar measures were adopted in Austria and in part of Germany; and there is little doubt that the example thus set will be followed by most of the continental countries.

The Zonentarif, as introduced in Hungary, divides traveling on main lines into fourteen principal classes, and that on the branch lines into two classes; these classes are called zones, and for one or more of these zones tickets are issued that entitle a passenger to travel from the starting place to the end of the zone or to any point within that zone.

The following table shows the divisions into zones and the price for passage:

Number of zone.	Description.	Local trains.			Fast trains.		
		First class.	Second class.	Third class.	First class.	Second class.	Third class.
Short lines.		*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*
1	First station	0.30	0.15	0.10	....	....	....
2	Second station	.40	.22	.15	....	....	....
Main lines.							
1	1 to 25 kilometres	.50	.40	.25	0.60	0.50	0.30
2	26 to 40 kilometres	1.00	.80	.50	1.20	1.00	.60
3	41 to 55 kilometres	1.50	1.20	.75	1.80	1.50	.90
4	56 to 70 kilometres	2.00	1.60	1.00	2.40	2.00	1.20
5	71 to 85 kilometres	2.50	2.00	1.25	3.00	2.50	1.50
6	86 to 100 kilometres	3.00	2.40	1.50	3.60	3.00	1.80
7	101 to 115 kilometres	3.50	2.80	1.75	4.20	3.50	2.10
8	116 to 130 kilometres	4.00	3.20	2.00	4.80	4.00	2.40
9	131 to 145 kilometres	4.50	3.60	2.25	5.40	4.50	2.70
10	146 to 160 kilometres	5.00	4.00	2.50	6.00	5.00	3.00
11	161 to 175 kilometres	5.50	4.40	2.75	6.60	5.50	3.30
12	176 to 200 kilometres	6.00	4.80	3.00	7.20	6.00	3.60
13	201 to 225 kilometres	7.00	5.30	3.50	8.40	6.50	4.20
14	226 kilometres and over	8.00	5.80	4.00	9.60	7.00	4.80

From this table it will be seen that any distance of more than 225 kilometres of railroad line belongs to zone 14; hence, with a ticket purchased for that zone, a traveler may journey from Buda-Pesth to Fiume, a distance of 608 kilometres, or to Predeal, a distance of 761 kilometres, for a sum varying from 4 to 9.60 florins, according to the kind of train and class of car.

On a similar plan the forwarding of passengers' baggage has been divided into three classes or zones; but free weight of baggage is granted no more, the former allowance of 50 pounds of free weight of baggage for each passenger ticket having been abolished.

The charges for the forwarding of passengers' baggage are as follows:

Distance.	1 to 50 kilos.	51 to 100 kilos.	101 kilos. and over.
	Florins.	*Florins.*	*Florins.*
1 to 55 kilometres	0.25	0.50	1.00
56 to 100 kilometres	.50	1.00	2.00
101 kilometres and over	1.00	2.00	4.00

As a starting point for calculating the distance, Buda-Pesth was fixed upon; so that distances not starting from Buda-Pesth do not touch upon that city. They fall within one zone, requiring only one zone ticket; but, if Buda-Pesth must be passed, two tickets are required—that is to say, if a passenger wishes to start from any given point to any other point leading through and beyond Buda-Pesth, he is obliged to get one ticket in order to reach Buda-Pesth and another to take him from that city to his place of destination.

The introduction of this innovation was not only violently combated, but even greatly ridiculed by men who were considered competent judges on all railroad matters. The new system, however, has been tried and the results have proved highly satisfactory.

Besides the manifold advantages accruing to the management of railroads from this system of unification, its cheapness of traveling is made evident from the following comparison of various railroad lines:

Table showing the prices of first-class tickets for a distance of 70 kilometres.

Railway lines.	Fast trains.	Local trains.
	Florins.	*Florins.*
Austro-Hungarian Staatsbahn	3.37	2.71
Branch lines		3.21
Südbahn (Southern Railroad)	5.42	4.54
Hungarian Government Railroad (fourth zone)	2.40	2.00

The ratio in the difference of prices is still increasing as the distance increases, and it is greatest in traveling over a distance of more than 225 kilometres; and, in spite of, or rather, to express it more correctly, by the cause of traveling becoming thus greatly cheapened, the surplus receipts from passengers' fares during the month of November, 1889, exceeded that of the like period of the preceding year by nearly 20 per cent.

Although at the time of the introduction of the zone tariff the number of passengers forwarded by the 4,990 kilometres of Hungarian State railroad remained considerably behind the number of passengers forwarded during the same period of the preceding year—the results of that preceding year being considered as very unfavorable—the number forwarded on the lines was increasing at such a rate that, according to official statistics reaching to the end of November, 1889, there were sold during that month of November 947,669 passenger tickets yielding a receipt of 710,298 florins, while for November of the preceding year (1888) 503,649 passenger tickets were sold with the receipt of 595,133 florins, thus showing for November, 1889, an increase of 444,020 passengers and of 115,165 florins.

As a consequence of this favorable turn, not only the shortcomings were made up that had occurred at the commencement of the working of the zone tariff in the month of August, but the receipts from passenger tickets—which were 7,683,641 florins in 1888 and 8,235,215 florins in 1889—show an increase of 551,574 florins. The increase in the number of passengers is about 80 per cent.

The following table shows the amount of passengers' baggage forwarded and the proceeds resulting therefrom for the period from August 1, 1889 (day of introduction of the zone tariff), until July 31, 1890, as compared with the same period for 1888-'89:

Year.	Passengers.	Baggage.	Receipts.		
			Passenger.	Baggage.	Total.
	Number.	*Pieces.*	*Florins.*	*Florins.*	*Florins.*
1889-'90	*13,060,751	603,060	10,627,676	558,645	11,186,321
1888-'89	5,186,227	465,759	8,777,179	361,536	9,138,715
Increase	7,874,524	137,201	1,850,497	197,109	2,047,606

* Short distances, 7,385,131; long distances, 5,675,620.

What is still more striking is that this unexpectedly great success of the zone tariff is not confined to the year immediately following the introduction of that innovation; but the period from August 1 to September 20, 1890, shows another increase of passengers to the number of 475,578 and an increase of receipts of 56,078 florins compared with those of the same period of 1889, thus showing that, in spite of the sudden and mighty rise of traffic caused by the first year's working of the zone tariff, the increase is still continuing.

Zone freight traffic.—For freight traffic a similar radical reform has been worked out by the Hungarian minister of commerce. By this ordinance three zones of distances are established for the forwarding of freight: (1) from 1 to 200 kilometres, (2) 201 to 400 kilometres, (3) 401 kilometres and over. For each of these zones a uniform tariff is fixed, which is by 33 per cent. less than the former average tariff for the conveyance of goods.

In view of the greater competition of steam shipping on the Danube, the tariff for goods conveyed from Buda-Pesth to Bruck is even lower than the rate established for the second zone.

Private railways.—The total length of private lines in Hungary is about 2,000 kilometres; the capital invested, 150,000,000 florins. The lines stretching over Hungary and Austria have been mentioned under the head of private railroads in Austria.

The returns from Hungarian railway shares are somewhat lower than from those of Austria. The Hungarian Government, however, is strongly pushing to take possession of the private railroads—having already *verstaatlicht* (acquired for the State) last year the Buda-Pesth-Fünfkirchen Railroad—and zealously carrying on negotiations for the acquisition of several other private railways.

Local lines.—The local Hungarian lines have a length of about 506 kilometres, costing 15,000,000 florins. The construction of these lines chiefly depends on the good will of the parties adjacent, although the Government is patronizing such undertakings in every possible manner.

MERCANTILE MARINE.

The commercial sea navigation of Austria-Hungary is restricted chiefly to the Austrian seaport of Trieste and to Fiume, the Hungarian rival of the former. Both are situated on the Adriatic Sea, and their navigation and commerce, representing the principal mercantile transactions by sea, are treated separately in this report.

The Austro-Hungarian mercantile marine is represented by the following stock companies:

(1) The Austro-Hungarian Lloyd, the most prominent undertaking in Austria-Hungary for sea navigation and ranking among the ten largest navigation companies of the world, was founded in 1833. It runs regular lines, starting from Trieste, to the following seaports: Europe—Fiume, Cattaro, Corfu, Prevesta, Spalato and Metkovich, Contantinople, Salonica, Cyprus; Asia—Smyrna, Beirut, Bombay, Calcutta, Hongkong; Africa—Alexandria; and, as occasion demands, to the ports of Brazil. The company possesses eighty-seven ironclads of about 2,500 indicated horse-power each and of about 130,000 tons. The total capital stock invested is 21,815,000 florins, yielding, until recently, from 4 to 6 per cent. The year 1889 closed with a deficit of 411,000 florins; the deficit for 1890 is estimated at 600,000 florins. Between the Austro-Hungarian Government and the company a convention has been agreed on stipulating the carrying of mails, etc., for which the Government pays the sum of 1,300,000 florins to the company. That compact, not being very favorable to the latter, is about running out, and will probably not be renewed with the Government of Austria-Hungary; but negotiations are at present being carried on between the State authorities of Austria and the company, tending to grant to the latter a larger subvention than hitherto allowed, but permitting the former a greater influence in the management of the company.

(2) The Hungarian sea navigation stock company Adria, at Fiume, with a capital stock invested of 1,000,000 florins, and receiving an annual subvention from the Hungarian Government. In the commencement it directed its activity chiefly to the ports of England, Scotland, and France; but of late its vessels also visit the north of Africa, Spain, Portugal, and Brazil.

(3) Several small undertakings, operating with a sum of only 60,000 to 80,000 florins, chiefly for traffic to Cette, Marseilles, Venice, and the inland coasting places.

Table showing the sea navigation of Austria-Hungary during the years 1884–'88.

Description.	1884.		1885.		1886.		1887.		1888.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Steamers:										
Ocean	55	61,500	54	63,552	58	71,536	58	71,356	58	71,285
Coast—										
Large	34	11,984	34	12,719	34	12,628	34	12,872	29	11,249
Small	29	1,148	32	1,301	36	1,494	39	1,724	48	2,130
Total	118	74,632	120	77,572	128	85,685	131	85,952	135	84,664
Sailing vessels:										
Ocean	244	133,605	214	121,226	193	109,838	161	91,536	127	73,442
Coast—										
Large	61	6,386	56	5,896	54	6,326	53	6,490	49	6,426
Small	1,549	21,349	1,525	21,295	1,551	21,809	1,526	21,760	1,511	21,607
Fishing smacks	2,433	6,716	2,203	5,698	2,480	6,256	2,493	6,275	2,474	6,171
Barks and lighters	4,302	10,839	4,770	10,922	4,846	10,896	4,871	10,964	5,130	13,495
Total	8,589	178,895	8,768	165,037	9,124	155,125	9,104	137,025	9,291	121,141
New ships built	175	10,005	175	4,702	160	10,008	204	1,901	200	2,602
Ships renovated and repaired	657	157,611	489	158,683	480	121,237	605	141,526	682	126,434

Table showing arrivals and departures of vessels in the ports of Austria in the years 1884–'88.

ARRIVALS.

Year.	Loaded.		In ballast.		Unserviceable.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
1884	36,922	5,060,466	9,061	730,718	12,322	1,045,599	58,305	6,836,783
1885	37,784	5,188,026	9,300	756,798	12,282	1,040,888	59,366	6,985,712
1886	40,166	5,233,218	8,662	683,764	14,016	1,018,158	62,844	6,935,140
1887	47,120	6,423,447	10,451	783,503	12,023	859,478	69,594	8,066,428
1888	49,233	6,832,205	9,409	713,450	10,107	818,871	68,749	8,364,526

DEPARTURES.

1884	35,944	4,694,209	10,000	1,120,994	12,305	1,035,553	58,249	6,850,756
1885	37,259	4,896,673	9,697	1,055,419	12,242	1,022,368	59,198	6,974,460
1886	38,938	4,991,870	9,708	907,740	13,993	1,017,432	62,639	6,917,042
1887	46,485	6,096,490	11,118	1,124,264	12,017	854,811	69,620	8,075,565
1888	49,054	6,625,501	9,468	911,381	10,112	820,716	68,634	8,357,598

Of the above total the proportion of steamers was as follows:

Year.	Arrivals.		Departures.	
	No.	Tons.	No.	Tons.
1884	28,457	5,789,702	28,453	5,798,173
1885	30,576	5,934,147	30,544	5,931,108
1886	33,792	5,917,818	33,732	5,902,787
1887	40,915	7,044,050	40,924	7,046,003
1888	41,196	7,405,901	41,164	7,402,808

Table showing the tonnage of arrivals and departures of vessels in Austrian ports by flag from 1884 to 1888.

ARRIVALS.

Flag.	1884.	1885.	1886.	1887.	1888.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Austro-Hungarian	5,967,039	6,041,307	6,028,873	7,033,478	7,383,125
Italian	467,253	514,901	511,434	570,606	561,195
British	255,744	277,410	274,076	319,754	276,902
Grecian	60,805	51,957	42,905	60,161	58,337
German	34,868	47,720	29,105	38,803	32,618
Turkish	10,272	8,124	7,716	13,731	12,587
Other	40,801	44,293	41,031	29,895	39,762
Total	6,836,783	6,985,712	6,935,140	8,066,428	8,364,526

DEPARTURES.

Austro-Hungarian	5,970,048	6,022,602	6,012,940	7,037,660	7,374,018
Italian	468,124	515,159	511,611	575,759	561,291
British	260,759	279,713	271,729	317,117	278,109
Grecian	64,318	55,499	41,844	62,719	60,142
German	36,118	49,886	27,778	38,259	33,231
Turkish	11,217	8,951	7,519	14,360	12,329
Other	40,172	42,650	43,621	29,691	38,478
Total	6,850,756	6,974,460	6,917,042	8,075,565	8,357,598

Table showing the navigation, by countries, carried on at the ports of Austria during the years 1884–'88.

ARRIVALS.

Countries.	1884.	1885.	1886.	1887.	1888.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Austria-Hungary	5,184,817	5,227,896	5,479,209	6,376,810	6,673.985
Italy	430,690	542,792	418,081	579,822	548,916
Turkey	471,498	508,599	360,343	382,442	339.640
Greece	222,119	211,612	188,763	169,683	264,224
England	190,084	174,755	174,687	202,396	186,339
Egypt	68,985	68,125	68,534	83,545	79,559
France	70,592	66,705	43,648	61,179	58,474
East India	48,793	49,936	50,343	56,361	53,594
Russia	15,023	21,115	16,097	34,898	52,384
Other	134,182	114,117	115,434	119,292	107,411
Total	6,836,783	6,985,712	6,935,140	8,066,428	8,364.526

DEPARTURES.

Countries.	1884.	1885.	1886.	1887.	1888.
Austria-Hungary	5,244,124	5,240,953	5,454,200	6,296,210	6,596,017
Italy	401,103	507,651	436,221	622,940	591,966
Turkey	436,242	473,269	371,819	444,402	368,533
Greece	254,271	244,187	205,231	179,118	276.303
England	155,993	147,871	117,554	130,356	125,216
Egypt	72,100	83.445	88,130	100,914	87.440
France	110,382	86,680	65,613	62,825	92,727
East India	37,133	34,165	18,123	38,817	26,713
Russia	19,092	17,527	19,771	49,484	56,811
Other	120,316	138,712	140,380	150,499	135,872
Total	6,850,756	6,974,460	6,917,042	8,075,565	8,357.598

Table showing the value of goods imported to and exported from the ports of Austria during the years 1884–'88.

IMPORTS.

Description.	1884.	1885.	1886.	1887.	1888.
	Florins.	*Florins.*	*Florins.*	*Florins.*	*Florins.*
Total value	228,949.765	206,295,162	219,614,042	238,918,692	230,872,306
Textile goods and yarns	51,910.971	38,517,657	44,333,992	49,268,365	47,795,813
Groceries	36,888,082	35,625,620	43,345,018	44,248,690	39,126,796
Tropical fruit	12,140,392	13,140,729	14,322,219	16,743,684	20,352,084
Animal products	14,498,869	14,842,448	14,804,200	17,524,384	18,489,485
Grain, flour, and rice	14,991,870	15,000,456	13,303,492	14,814,361	14,732,642
Dyes and tanning stuff	12,145,648	11,771,927	12,093,197	10,930,890	12,957,450
Beverages	10,429,275	11,454,995	12,712,002	13,946,122	12,556,707

EXPORTS.

Description.	1884.	1885.	1886.	1887.	1888.
Total value	204,383.577	200,753,132	199,115,802	211,749,960	196,119,484
Textile goods and yarns	45,152,121	42,442,692	36,345,650	42,710,195	42,202,364
Beverages	23,531,107	22,969,660	24,408,529	25,862,380	25,198,388
Wood and coal	13,547,179	15,975,977	14,089.558	16,634,074	16,748,175
Grain and flour	13,700,929	15,249,190	16,364,643	14,262,405	14,329.092
Sugar	20,033,420	17,089,396	15,172,322	14,014,769	10,251,853
Clothing and linen goods	937,031	2,014,804	8,162,687	15,379,125	6,166,456
Paper and paper goods	4.751,273	4,579,296	5,230,438	5,576,248	6,201,240

ARRIVALS AND DEPARTURES OF VESSELS AT TRIESTE.

The following is an official statement of the arrivals and departures of vessels and their tonnage at the port of Trieste for the years 1889 and 1890:

Description.	1889.		1890.	
	No.	Tons.	No.	Tons.
Arrivals	8,213	1,447,940	7,873	1,471,464
Departures	8,192	1,441,250	7,856	1,457,174

Table showing the arrivals and departures from and to the United States in 1889 and 1890.

Description.	1889.		1890.	
	No.	Tons.	No.	Tons.
Arrivals	13	11,024	36	30,042
Departures	19	38,588	20	44,500

None of these vessels, however, either arrived or departed under the American flag.

RIVER NAVIGATION.

The Donau Dampfschiff fahrts-Gesellschaft (Danube Steamboat Company) is possessed of the exclusive right of steam navigation on the Austro-Hungarian part of the River Danube and its tributaries. The company in 1888 possessed 190 steamships of 17,123 horse-power and 749 iron tows; the capital stock invested is 46,153,000 florins (shares and preference shares), with a former return of 4.6 per cent.

The steamers navigate the River Danube down to the Soolina's mouth, and also its tributaries, as the Save and Drave. On the lower part of the Danube the company has to contend against some rival undertakings, as the Russian enterprise of Gagarin, which, from political reasons, is subventioned by the Russian Government; but nearly all those undertakings have turned out to be entirely unprofitable.

The privilege granting the monopoly of the exclusive right of steam navigation on the Austro-Hungarian Danube is about expiring, and the company is endeavoring to get that privilege renewed, to which, however, the Hungarian Government will only agree on certain conditions, the chief of which are dualism of the management now localized in Vienna and greater concessions to the Hungarian Government on the question of tariffing. In Hungary the privilege of the company was canceled, according to article 14 of 1873, and by the same law the Hungarian Government's guaranty of the payment of interest was stopped. Of late some differences of opinion have arisen between the Government of Hungary and the steamship company, the former desiring to gain a more direct influence in regulating the politics and prices of tariffing and insisting on the company establishing another independent administration at Buda-Pesth. These points have not been settled as yet, but a compromise is likely to be brought about by the intercession of the most influential and principal shareholders, although at present the Government seems not inclined to grant any concessions; therefore, the precariousness of the economical state of the Donau Dampfschifffahrts-Gesellschaft, which has not paid any premium for 3 years, is becoming still more uncertain, to the great detriment of the company's shareholders.

The former manager of the company, who, perhaps, maintained too firmly the interests of the company against the claims of the Hungarian Government had to make room for another director more conciliating; but the negotiations between the Government and the company have not yet reached an end.

The Österreichische Nordwest Dampfschifffahrts-Gesellschaft (Austrian Northwestern Steamship Company) for navigation on the River Elbe had, in 1888, 38 steamboats and 166 tows of 52,931 tons. Other data have not been obtainable.

AUSTRIAN POSTAL, TELEGRAPH, AND TELEPHONE STATISTICS.

The following tables give the latest statistical data, as published by the official report, respecting the postal, telegraphic, and telephone service:

Table showing the number of post and telegraph offices, their receipts and expenditures, etc., during the years 1884–'88.

Description.	1884.	1885.	1886.	1887.	1888.
Post-offices:					
Ärarische*.........number...	260	275	292	312	322
Nichtärarische†.........do......	3,931	3,988	4,055	4,122	4,232
Total.........do......	4,191	4,263	4,347	4,434	4,554
State telegraph:					
Length of lines.........kilometres...	24,086	24,731	25,070	25,706	26,236
Length of wire.........do......	65,308	66,492	67,450	69,510	71,742
Telegraph offices:					
Government.........number...	1,336	1,440	1,530	1,635	1,788
Railroad and private......... do......	1,567	1,679	1,662	1,724	1,743
Total.........do......	2,903	3,119	3,192	3,359	3,531
Employés:					
Administration.........do......	792	877	905	934	992
Manipulation.........do......	17,787	18,672	20,484	21,048	22,266
Total.........do......	18,579	19,549	21,389	21,982	23,258
Receipts.........florins...	24,749.261	25,098,453	26,367,103	26,757,215	27,584,281
Expenditures.........do......	21,167,833	21,413,931	22,619,102	23,338,436	23,934,923

*"Ärarische" post-offices are those in which the administrative and manipulating officials are salaried by the Government.

†"Nichtärarische" post-offices are offices, generally in the country, which, instead of the payment of a certain sum, are let to persons not officials of the State. They are held to give security to a certain amount and must pay their employés from their own means; but they are allowed to levy a tax of half a kreutzer for each newspaper and 1 kreutzer for each letter or postal card, etc., delivered by them

Table showing the number of letters, postal cards, telegrams, etc., handled in Austria for the years 1884–'88.

Description.	1884.	1885.	1886.	1887.	1888.
Letters	288,100,000	299,692,400	313,820,600	317,637,000	338,172,700
Postal cards	66,419,600	60,802,100	74,503,600	77,953,500	85,188,300
Printed matter	41,460,300	41,495,000	43,247,200	44,817,000	47,156,400
Samples	8,205,300	8,660,400	8,526,900	9,002,800	9,783,600
Total	404,185,200	419,649,900	440,098,300	449,410,300	480,301,000
Money letters	11,291,600	10,792,700	10,456,100	8,873,600	7,935,700
Parcels:					
Value declared	13,258,400	14,380,200	15,562,900	13,256,600	12,392,600
Value not declared	10,812,200	11,758,600	12,553,500	14,150,900	15,656,800
Total	35,362,200	36,931,500	38,572,500	36,281,100	35,985,100
Money orders	12,624,441	12,958,389	13,369,712	13,790,374	14,545,710
Packages sent C. O. D.	3,358,261	3,490,419	3,233,511	3,323,341	3,328,619
Postal commissions (internal)	110,063	124,819	93,251	89,099	109,438
Total	16,092,765	16,573,627	16,696,474	17,202,814	17,983,767
Telegrams:					
Government (internal) *	17,099	19,913	20,559	23,730	24,213
Public service *	483,772	508,474	544,757	614,806	640,164
Internal	3,353,917	3,335,215	3,411,764	3,486,391	3,775,814
To Hungary	513,160	540,220	536,574	544,946	581,382
From Hungary	474,802	497,583	492,491	499,399	528,538
To foreign countries	864,184	844,010	889,027	938,893	1,026,261
From foreign countries	943,655	905,334	937,803	994,699	1,136,807
International transit	507,535	548,733	561,154	601,707	673,443
Total	7,158,124	7,199,482	7,394,129	7,714,571	8,386,622

* Free of charge.

Of the total of 480,300,980 letters in 1888, 305,816,500 were mailed and delivered in Austria, 55,626,290 were sent to and 49,959,740 received from foreign parts, 33,345,300 sent to and 22,516,220 received from Hungary, 4,759,100 sent to and 3,273,610 received from Bosnia and Herzegovina. The total number of newspapers, not including those forwarded in parcels and by way of book trade, was 67,912,190. Of the total of 35,985,100 pieces forwarded by the parcel post in 1888, the number of 15,656,800 were parcels, value not declared; 7,935,680 money letters, value 3,076,105,340 florins; 12,392,640 parcels, declared value 1,287,626,510 florins. The transactions in postal orders were:

	Florins.
Paid in:	
For internal intercourse	343,797,594
For international intercourse	12,296,795
Paid out:	
For internal intercourse	416,710,604
For international intercourse	15,452,457

The number of paid telegrams was 6,497,404, divided as follows: Messages from parties in Austria 5,360,597, of which 4,334,336 were for Austria and 1,026,261 for foreign parts; international messages arrived, 1,136,807. Of the total number of telegrams, 344,774 were forwarded by railroad telegraphic stations.

Table showing the number of telephones, telephone lines, etc., and their receipts and expenditures for the years 1886–'88.

Year.	Lines.	Wires.	Offices.	Subscribers.	Telephones.
State:	*Number.*	*Kilometres.*	*Number.*	*Number.*	*Number.*
1886	1	604.93	4	....	8
1887	2	691.51	16	34	110
1888	37	2,085.6	29	128	185
Private:					
1886	11	7,671.8	23	3,250	3.378
1887	12	10,454.7	23	3,834	3.911
1888	13	14,743.3	12	4,676	4,850
Total:					
1886	12	8,276.73	27	3,250	3,386
1887	14	11,146.21	39	3,868	4,021
1888	50	16,828.9	41	4,804	5,035

Year.	Messages.	Telegrams.	Receipts.	Expenses.
State:	*Number.*	*Number.*	*Florins.*	*Florins.*
1886	985	....	985.00	2,620.00
1887	10,041	1,129	10,949.00	6,166.00
1888	35,959	14,563	31,915.00	9,567.00
Private:				
1886	3,814,892	30,171	299,247.50	173,708.50
1887	4,805,212	102,426	354,567.00	221,660.00
1888	5,837,024	148,024	386,746.00	232,173.00
Total:				
1886	3.815,877	30,171	300,232.50	176,328.50
1887	4,815,253	103,555	365,516.00	227,826.00
1888	5,872,983	162,587	418,661.00	241,740.00

FORESTRY.

The paternal government of Austria prescribes the most stringent laws regarding the culture and preservation of the forests belonging to the imperial domain, to municipalities, or to private individuals. According to our ideas, these restrictions are rather autocratic; but they serve their purpose, and the Austrian woodlands are renowned for the good and exemplary care taken in their preservation.

The latest statistics place the total area of the productive land of the Empire at 28,406,530 hectares; of these 9,227,061 hectares are forest lands, of which 1,381,433 are hard woods, 6,587,853 pine woods, and 1,257,775 brushwood. The forests cover about the fourth part of the Empire and are of great value. Their cultivation and preservation and the administration of the laws with reference thereto are intrusted to the ministry of agriculture, the provincial presidents, and district captains. Their subordinates must all pass an examination and are divided into permanent and voluntary officers. The former are promoted like military officers; the latter enter the service for the sake of pursuing their studies practically, but receive a moderate salary. They are classified as counsellors, commissaries, and inspectors. A forest register is kept and maps are drawn of each district, which specify the number of acres covered by forest, its condition, age, and state of growth.

The total number of forest officers of all grades, public and private, employed in Austria reaches the respectable figure of 31,826.

The expenditures for Government forests are 3,546,240 florins; revenues, 3,951,650 florins; showing a profit of 405,410 florins. The Government forests contain 952,689.96 hectares; municipal, 1,297,238.21; private, 6,977,133.03.

The largest private owners are: The Emperor, 35,000 hectares; imperial family, 25,000; Archduke Albrecht, 115,000; Prince Johann Lichtenstein, 136,103; Prince J. A. Schwarzenberg, 110,718; Count Schönborn, 124,563; Prince of Saxe-Coburg, 74,181; Baron von Sina, 60,000; Prince Esterhazy, 85,000.

The following figures give the number of forest fires, damage done, and causes of origin for a period of 5 years, as stated by the latest official reports at hand: Number of fires, 1,717; area damaged, 6,551.68 hectares; amount of damages, 276,439 florins; origin—unknown, 895; improvidence, 588; malice, 151; sparks from locomotives, 69; lightning, 14.

The forest schools of Austria are divided into elementary schools, middle schools, and high schools or universities, and are doing splendid work to fit and educate young men for their future duties, and are worthy of imitation by countries like ours.

LABOR AND EMIGRATION.

The American wage worker chooses his own career and is the maker of his own fortune. He feeds and dresses well, has a comfortably provided home, and his wants are better supplied than those of the laborers of any other country. His high standard of living corresponds with the comparatively high wages prevalent in the United States, and upon these two factors depend the future education, progress, individual independence, and general prosperity of the American people.

It is quite different in Austria-Hungary. Here we find the houses, nourishment, and clothing of the workingman very different. The condition of his dwelling is very bad, and, in consequence of very high rents, he is obliged to live at a considerable distance from his place of work. His food is more abundant than substantial. His breakfast consists either of gruel or of a roll or some rye bread, together with some surrogate coffee.* Dinner means some kind of soup and vegetables, together with some rye bread, with an occasional change of vegetables, and salt or smoked pork twice or three times a week, other kinds of meat being rarely available. Sometimes beef boiled in soup forms his holiday dinner. The supper, in cities, consists of bread and beer with a piece of sausage, whilst in the country it is usually coffee and bread only. The cost of providing an average-sized family with the necessaries of life is estimated, by well-informed people, at about 550 florins a year. The average wages of skilled workmen, if employed throughout the whole year, is about 500 florins per annum; that of day laborers is about 300 florins, and workmen in factories generally receive still less. The balance to maintain life must be earned by wife and children. Under such circumstances life is but one continuous struggle to keep the wolf from the door, and only the more prosperous are able to indulge, to even a moderate degree, in the comforts of life.

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* Surrogate coffee means some substitute for coffee and in reality is no coffee at all.

The working classes of Austria are, in general, of steady, industrious, and sober habits. The small amount of wages earned allows them no opportunity of saving. Living is almost as expensive here as it is in the United States. Flour, meat, vegetables, and food in general cost as much here as they do with us. House rent is fully as high; only the price of clothing is in favor of this country.

These circumstances tell on the physical condition of the laboring classes, which, generally speaking, is not good. They are small of stature and insufficiently nourished; their intellectual capacities are not highly developed, and they do not possess the energy and practicability of our American workmen.

Politically, the workman is no factor. In Austria no man possesses the right of voting unless he pays a yearly direct tax to the State to the amount of 5 florins. In consequence of the difficulties put in the way of legal marriage, the ties of family are not strong. Children born out of wedlock reach, in Vienna, the enormous figure of 42 per cent. No special efforts for reform are made by the Government in this direction, although the Government inspectors of mills, factories, and workshops have in various ways done good work in this Empire.

On the other hand, the reactionary law called "Befähigungs-Nachweiss-Gesetz" forces every artisan to serve a regular apprenticeship and pass an examination before he may become a mechanic, and pass another examination before he can set up his own shop as an independent master in his own trade. The law also prohibits a person from pursuing more than one occupation. The effects are disastrous in many cases, as is seen in the instance of the pearl-button workmen, who are living on public charity. They can find no employment at their own trade, which has been destroyed by the enactment of the new tariff laws of the United States, and they are not permitted to follow any other occupation.

To the impoverished state of the Austrian people and to the stringent law which impresses every young man into the military service for a number of years must be ascribed the causes which lead to the present great emigration from this Empire, and which is principally directed to the United States. Peasants and working people form the bulk—about 75 per cent.—of the emigrants, while the rest consists chiefly of merchants and mechanics who strive to better their pecuniary condition and to escape the heavy burden of taxation, which in Austria amounts to about 30 per cent. of the net income and to nearly 50 per cent. of the rental value of improved real estate. Among the emigrating elements are a number of mining and mechanical engineers, young physicians, young, well-educated business men, and some other welcome accessions to our population.

From Lower and Upper Austria and from Bohemia there are a great number of families emigrating to the United States for the purpose of settling there permanently and of becoming good and law-abiding citizens, while the Hungarians, to a large extent, sojourn *but* a few years in the United States in order to accumulate a little fortune with which to return home to invest their savings in their native country, and, perhaps, return to the United States once more only to repeat the experiment over again. Such immigration can not be desirable. It furnishes an unfair competition to our home labor and should be considered as a sort of contract labor. These Slovakian emigrants are of the lowest class of the otherwise noble race of Hungarians. They stick to low and mean habits, which they will retain, and must prove a poor acquisition to the United States. It would be a blessing to our country if by proper legislative measures they could be excluded from our shores with any other undesirable elements. As a rule, the Hungarian day laborer is too poor to pay his fare to the United States and must be regarded as a pauper or a contract laborer imported by mining and railroad companies or their authorized agents.

Emigration in general is a spontaneous act with people from this Empire, caused by the reasons before mentioned and strengthened by favorable reports received from relatives residing in the United States; still, some agents of steamship companies have been constantly endeavoring to induce and persuade Austrians to leave their native country. The Wadowice scandal is still fresh in the memory of the people. Heavy punishment was inflicted on the unscrupulous people connected with it. All agitation and persuasion in favor of emigration has been strictly prohibited by the Government, business concessions are only granted on the condition that no propaganda must be made to encourage emigration, and the police authorities exercise an effective and strict control of all matters connected therewith. In spite of all Governmental measures tending to obstruct or prevent this exodus, emigration, especially from Hungary, has been constantly increasing, as will be seen from the following figures showing the number and sex of emigrants from Austria-Hungary to the United States during each year ending June 30, from 1881 to 1890, inclusive:

Year.	Austria.			Hungary.			Austria-Hungary.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1881	11,745	9,364	21,109	4,554	2,272	6,826	16,299	11,636	27,935
1882	11,937	8,284	20,221	6,753	2,176	8,929	18,690	10,469	29,150
1883	9,907	6,478	16,385	8,907	2,333	11,240	18,814	8,811	27,625
1884	13,142	8,631	21,773	11,239	3,559	14,798	24,381	12,190	36,571
1885	10,441	7,485	17,926	6,254	3,129	9,383	16,695	10,614	27,309
1886	10,193	6,067	16,260	9,361	3,059	12,420	19,554	9,126	28,680
1887	16,177	8,832	25,009	10,721	4,535	15,256	26,898	13,367	40,265
1888	20,227	9,784	30,011	11,999	3,801	15,800	32,226	13,585	45,811
1889	15,024	8,183	23,207	7,866	3,101	10,967	22,890	11,284	34,174
1890	23,428	10,709	34,137	16,589	5,473	22,062	40,017	16,182	56,199

The figures of the foregoing table have been taken from the report of the bureau of statistics at Washington. No reliance whatever can be placed on the official statistics on emigration as published by the Austro-Hungarian authorities, who are not in a position to state any reliable data, as the flow of Austro-Hungarian emigrants is directed to the seaports of Germany, Holland, France, and England, and as, from their fears of being detained, the majority of Austro-Hungarian emigrants quit their country without applying for passports.

The value to a country of the elements immigrating depends on the physical activity and intellectual capacities of the emigrants, which are greatest at from 15 to 40 years; and in these respects the emigrating elements from Austria-Hungary have been improving from year to year, as is made evident from the following table showing the percentage of emigrants aged from 15 to 40 years, according to sex, during the years 1881–'88:

Year.	Males.	Females.	Total.
	Per cent.	*Per cent.*	*Per cent.*
1881	60.04	50.83	56.07
1882	65.12	56.32	61.62
1883	64.06	54.76	60.33
1884	65.44	56.26	61.74
1885	63.19	56.46	61.6
1886	73.35	61.57	69.17
1887			70.06
1888			75.23

The press of this country publishes no information at all in regard to our emigration laws. It has wasted its ink in commenting in an abusive manner on our new customs law and its originators, but can not find time to acquaint the Austrian people with our laws on emigration; hence great ignorance about our restrictive laws as to contract laborers, criminals, paupers, and vagrants is prevalent in this country, especially among the lower classes, who form the bulk of the emigrants.

The United States consuls should be authorized to publish officially in the public press of this Empire a synopsis of those United States laws which have been passed to prevent the immigration of undesirable elements. The proposed measure of consular certificates will never work to advantage; in fact, it will prove useless as a check to the bad elements of emigration, whilst it will be a burden and hardship to such people as are welcome to our shores. Under existing circumstances a publication in pamphlet form of our laws on immigration would be welcomed by the Austrian Government, and more so by the local authorities throughout this Empire.

EXPORTS TO THE UNITED STATES.

The value of declared exports from the consular districts of Austria-Hungary (agencies included) to the United States for the year ended December 31, 1890, as compared with 1889, is shown in the following table:

Table showing value of declared exports to the United States.

Articles.	1890.						1889.	Increase.	Decrease.
	Buda-Pesth.	Prague.	Reichenberg.	Trieste.	Vienna.	Total.			
Albumen	....	$1,855.68	....	....	$9,395.87	$11,251.55	$12,044.76	....	$793.21
Amber	....	....	....	....	3,223.08	3,223.08	11,419.38	....	8,196.30
Antiquities	$480.31	....	....	....	1,244.74	1,725.05	6,497.25	....	4,772.20
Argols	11,177.65	....	....	$6,195.37	130,207.01	147,580.03	159,548.66	....	11,968.63
Artificial flowers	....	5,900.46	....	....	2,000.00	7,950.51	....	$7,950.51	....
Art, works of	332.78	869.40	....	....	....	24,719.74	24,435.37	284.37	....
Baskets and basket ware	2,417.18	5,765.42	....	....	....	21,167.38	18,816.02	2,351.36	....
Beans and lentils	126,515.16	56,966.00	....	107,496.41	....	361,254.96	187,571.38	173,683.58	....
Bed feathers	253.06	116,415.41	....	....	....	116,668.47	27,348.50	89,319.97	....
Beer	....	60,449.43	....	....	....	62,574.77	43,457.20	19,117.57	....
Beet-root sugar	....	3,584,508.84	....	....	....	3,585,812.52	305,343.92	3,280,468.60	....
Black lead	....	18,902.14	....	....	....	18,902.14	6,634.76	12,267.38	....
Books and papers	3,476.29	5,408.63	....	2,930.74	....	15,326.17	17,393.95	....	2,067.78
Brushes and bristles	22,695.76	....	....	....	....	36,512.59	31,132.24	5,380.35	....
Buttons	....	207,129.30	$125,588.56	....	....	2,119,369.12	1,758,236.03	361,133.09	....
Carlsbad Sprudel salt	....	14,452.17	....	....	....	14,452.17	64,439.65	....	49,987.48
Carriages	179.13	....	....	224.27	765.58	1,168.98	3,620.81	....	2,451.83
Chenilles and embroideries	....	2,237.84	....	....	14,727.62	16,965.46	22,636.45	....	5,670.99
Cloth and woolen goods	....	103,090.69	14,240.82	....	158,697.24	276,028.75	346,614.58	....	70,585.83
Cutlery	....	15,040.11	282.25	....	100.83	15,423.19	18,664.93	....	3,241.74
Cuttle bones	....	....	....	18,701.26	....	18,701.26	15,252.80	3,448.46	....
Dresses	....	....	....	....	5,619.21	5,619.21	3,224.26	2,394.95	....
Drugs and chemicals	....	26,307.69	....	19,575.56	42,747.03	88,630.28	75,286.15	13,344.13	....
Fancy goods and jewelry	....	36,588.55	294,732.94	....	127,963.68	459,285.17	379,636.29	79,648.88	....
Fans	....	....	....	....	227,319.56	227,319.56	199,512.13	27,807.43	....
Fruits, dried	124,023.00	14,413.03	....	1,220,262.17	884.75	1,359,583.85	668,750.01	690,833.84	....
Furniture	597.53	11,156.64	3,601.98	....	111,899.07	127,467.22	101,298.86	26,168.36	....
Glassware	13,324.41	375,744.29	466,126.15	....	98,854.32	954,049.17	1,108,492.18	....	154,443.01
Gloves	....	166,499.28	....	....	58,206.42	224,705.70	229,983.11	....	5,277.41
Gum	811.03	....	....	105,942.63	22,214.48	128,968.14	87,086.39	41,881.75	....
Hemp	....	....	....	8,091.36	....	8,091.36	18,646.54	....	9,745.18

Table showing value of declared exports to the United States.—Continued.

Articles.	1890.						1889.	Increase.	Decrease.
	Buda-Pesth.	Prague.	Reichenberg.	Trieste.	Vienna.	Total.			
Hair:									
Animal		[illegible]			[illegible]	$7,175.83	$4,708.19	$2,467.64	
Human		[illegible]			[illegible]	35,341.83	25,191.31	10,150.52	
Herbs, roots, and leaves	[illegible]	[illegible]		[illegible]	71.50	47,611.53	42,156.42	5,455.11	
Hollow ware					16,753.92	16,753.92	5,262.96	11,490.96	
Hops		55,445.90			2,424.37	57,870.27	74,432.82		$16,562.55
Insect powder and flowers				125,830.62	4,789.49	130,620.11	162,779.90		32,159.79
Leather and skins	[illegible]	[illegible]		51,170.78	[illegible]	169,047.44	118,282.33	50,765.11	
Linen and cotton goods		180,525.00	$110,629.13		675,370.94	966,525.07	857,530.57	108,994.50	
Macaroni				4,861.07		4,861.07	7,356.23		2,495.16
Machines and parts thereof	548.55				6,303.84	6,852.39	415.56	6,436.83	
Matches					1,994.56	1,994.56		1,994.56	
Meerschaum, crude					64,342.16	64,342.16	46,751.55	17,590.61	
Metal ware	2,101.96	9,200.77	8,432.26	158.13	68,139.25	88,032.37	63,791.16	24,241.21	
Mineral water	[illegible]	[illegible]		44.69		112,469.94	117,436.68		4,966.74
Mirror glass		38,982.90				38,982.90	10,590.46	28,392.44	
Musical instruments		24,060.33	1,815.12		8,183.49	34,058.94	19,042.26	15,016.68	
Oils and paints	799.20		952.85	21,438.36	742.62	23,933.03	20,874.26	3,058.77	
Ozocerite and ceresin				349.54	53,109.85	53,459.39	30,286.14	23,173.25	
Paper goods		51,108.98	11.72		8,051.98	59,172.68	24,891.48	34,281.20	
Porcelain and pottery	19,175.09	637,561.90	51,669.50		23,378.79	731,785.28	567,017.34	164,767.94	
Potash		30,288.76				30,288.76		30,288.76	
Pulp	1,019.99	99,992.44			105,791.29	206,803.72	121,856.20	84,947.52	
Rags				1,800.10		1,800.10	25,856.99		24,056.89
Scientific instruments					2,928.86	2,928.86	1,406.63	1,522.23	
Seeds	1,058.46			14,671.11		15,729.57	11,036.62	4,692.95	
Silks and velvets		136,397.21			275,635.58	412,032.79	310,709.42	101,323.37	
Skeletons		1,279.72			1,996.16	3,275.88		3,275.88	
Smokers' articles	69.00	4,107.20		219.27	169,131.12	173,526.59	163,666.30	9,860.29	
Sponges				12,648.26		12,648.26	7,857.39	4,790.87	
Stained glass					19,412.34	19,412.34	15,141.79	4,270.55	

Stationery	...	1,289.14	192.67	...	7,703.26	9,185.07	...	9,185.07	...
Stone and bricks	...	...	...	...	3,529.09	3,529.09	...	3,529.09	...
Tartar, crude	15,110.55	...	...	10,034.89	...	25,145.44	...	25,145.44	...
Toys	...	16,324.31	1,528.43	...	1,657.25	19,509.99	16,731.24	2,778.75	...
Umbrella fixtures	1,505.40	...	...	...	62,718.82	64,624.22	36,140.24	26,578.58	...
Wax figures	...	...	...	...	1,628,35	1,628.35	2,237.96	...	609.61
White lead	...	...	...	9,738.16	...	9,738.16	16,204.00	...	6,465.84
Wicks	...	...	...	...	1,907.08	1,907.08	980.75	926.33	...
Wines and liquors	77,173.14	461.58	...	4,359.95	32,802.86	114,797.53	115,723.54	...	926.01
Wooden goods	...	1,997.50	4,928.72	505.64	13,801.78	21,233.64	13,769.05	7,464.59	...
Wool	...	53,533.72	...	4,206.11	13,799.25	71,539.08	32,718.68	38,820.40	...
Miscellaneous	3,463.68	6,051.48	1,002.82	5,175.08	7,659.23	23,352.29	78,587.35	...	55,235.06
Total	533,095.00	6,251,455.59	1,086,017.94	1,795,918.87	4,688,738.17	14,355,225.57	9,121,846.33	5,233,379.24	...
Total in 1889	338,446.41	2,826,269.99	622,847.02	1,209,357.42	4,124,925.49	9,121,846.33	...	...	...
Increase in 1890	194,648.41	3,425,185.60	463,170.92	586,561.45	563,812.68	5,233,379.24	...	...	...
Total in 1883	412,828.30	3,091,044.81	676,623.38	1,690,042.52	4,178,943.51	10,049,482.52	...	...	...
Total in 1887	489,138.05	2,450,418.47	705,951.51	2,583,925.86	3,939,303.13	10,167,837.02	...	...	...
Total in 1886	232,221.79	2,691,221.41	387,922,57	1,351,984.63	3,645,293.91	8,308,644.31	...	...	...

AUSTRO-HUNGARIAN ARMY AND NAVY.

Table showing the number of vessels, tonnage, etc., of the Austro-Hungarian navy in January, 1889.

Description.	Number.	Tons.	Horse-power.	Cannon.	Crews.
Ironclads:				*Number.*	*Number.*
Monitors	2	11,930	2,400	43	....
Casemated ships	8	42,930	6,750	182	3,944
Frigates	1	5,140	3,500	25	420
Steamers:					
Frigates	2	6,860	1,200	40	914
Corvets	8	14,260	2,520	67	2,057
Torpedo cruisers	12	10,125	3,000	114	1,000
Cannon boats	6	3,470	680	19	644
Wheel steamers and yachts	6	5,890	1,300	15	600
Torpedo boats	42	1,960	2,010	7	512
Transports	4	6,010	1,600	14	332
Vessels for harbor police	5	1,200	300	10	100
Monitors (on the River Danube)	2	620	160	6	98
Total men-of-war	98	110,395	25,420	542	10,621
School ships	10	13,480	1,500	43	650
Hulks	6	11,070	....	....	318
Grand total	114	134,965	26,920	585	11,589

Table showing the number of officers, men, and horses of the regular army of Austria-Hungary, on peace and war footings, in 1889.

Army or corps.	Peace footing.			War footing.		
	Officers.	Men.	Horses.	Officers.	Men.	Horses.
Military authorities and commanders	2,352	1,538	....	2,760	3,394	6,000
Bodyguards	116	540	92	116	540	92
102 infantry regiments	6,698	168,520	800	10,658	513,840	25,670
Sharpshooters	740	20,275	64	1,113	75,036	1,580
41 cavalry regiments	1,604	54,471	49,000	2,357	68,586	70,300
Artillery	1,453	32,794	10,221	2,189	102,885	76,700
Pioneers, etc	394	7,644	18	528	27,102	2,480
Railroad and telegraph regiments	46	1,360	3	117	11,874	347
Trains	275	2,556	1,337	974	42,943	52,000
Medical corps	70	2,619	1	273	20,209	....
All others	2,332	6,360	163	5,804	12,820	1,075
Total	16,080	298,677	61,720	26,889	878,729	236,254
Austrian militia	574	3,878	167	2,948	231,978	6,496
Hungarian militia	1,269	8,977	1,516	4,178	167,188	14,814
Staffs, etc	136	90	....	....	....	....
Police corps	285	1,069	....	285	14,980	....
Others	148	5,095	....	148	5,125	....
Grand total	18,492	317,786	63,403	34,448	1,298,000	257,564

JULIUS GOLDSCHMIDT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, March 10, 1891.

THE GERMAN CRISIS IN BREADSTUFFS.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

The most notable commercial event of the present summer has been the sudden announcement recently by the Russian Government of an imperial decree forbidding, until otherwise ordered, the exportation of rye from the Russian Empire to any foreign country. This is equivalent to an official declaration that the harvest of cereals in Russia is so deficient that the export of rye must be forbidden in order to avert danger of famine.

How seriously this unexpected edict affects the bread supply of Germany, and what it means to the laboring classes of this country, will be readily appreciated.

Very little pure wheat bread is eaten by the middle and lower classes in Germany. The "staff of life" to a vast majority of the German people is black bread, made with flour ground from a mixture of rye and an inferior quality of wheat. The consumption of this material is so enormous that Germany imported 8,612,500 metre centners in 1890, or 947,375 tons, of rye, of which 7,500,000 metre centners, or 85 per cent. of the entire import, as well as 55 per cent. of the whole import of wheat into this country, came from Russia. The recent edict therefore cuts off nearly five-sixths of the entire foreign rye supply of Germany.

How difficult it would be to fill this vast deficit by increased importations from other sources will be evident from the fact that the entire export of rye from the six countries which rank next to Russia as producers of that cereal attained only the following yearly averages during the period from 1884 to 1888:

	Bushels.
Roumania	2,592,333
France	1,683,000
Servia	80,666
European Turkey	132,000
United States	1,272,666
Canada	381,666
Total	6,142,331

This is barely one-fourth of the rye import of Germany from Russia alone during the year 1890.

In view of the short cereal crops which prevail this season more or less uniformly throughout Europe, it is not certain that either France, Roumania, or Servia will have any considerable surplus of rye for export.

The deficit in Germany can not, therefore, be filled from any known source of supply on this side of the Atlantic, and the effect of this situation upon the rye market has been startling. One year ago rye was selling in Berlin for 164 marks per 1,000 kilogrammes, or $39 per gross ton of 2,220 pounds; on August 3 the effect of the meager harvest had raised the market price to 219.50 marks, or $52.24 per 1,000 kilogrammes. Then came the Russian edict, and within 12 days the price had risen to 260 marks, or $61.88, and the end is not yet reached. Add to this a short and inferior potato crop throughout nearly the whole of Germany, the direct result of a late spring and a cold, wet, cloudy summer, and it will be seen that the food question in this country has assumed an ominous aspect.

A strong demand has been made by certain newspapers that the Government shall suspend, provisionally, the import duty on cereals; but thus far the situation has not been regarded sufficiently serious to require such a step. The only concession that has thus far been made is a reduction in the freight tariff for cereals on all the State railways of Prussia, which will go into effect on the 1st of September. This will, of course, facilitate, to some extent, the distribution of grain throughout a large portion of the German Empire; but, as a leading journal points out, it will not create a pound of breadstuffs which does not already exist, and in the end the people of Germany, like those of France and England, will have to draw upon the well-filled granaries of the United States for a large part of their food supply during the coming year.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, August 20, 1891.

AMERICAN VS. EUROPEAN TRADE IN MEXICO.

REPORT BY CONSUL FECHET, OF PIEDRAS NEGRAS.

A study of European and United States trade with Mexico at this inland port presents many interesting features.

The sharp competition in ocean freights quite equals the struggles of rival routes for railway traffic. Distance ceases to be a factor in freights. Merchandise has been shipped on through bills of lading from European ports to interior points in Mexico for as low rates as from New York to same points.

Long-haul merchandise can be sold as cheaply as short-haul merchandise. In consequence England, Germany, France, and Belgium compete actively with the United States for Mexican trade and experience but little disadvantage from the more favorable geographical position of the United States.

This subject of United States and European trade with Mexico and how to increase our own trade with our neighboring Republic is a very large one and can not be discussed *in extenso* in this report; a few remarks may be made, drawn from a fair experience and careful investigation.

Trade with a foreign country can not be solely built up by commercial treaties, however favorable and however much the needs of one country finds its complement in the surplus of the other. Individual work of enterprising, wide-awake men must supplement that of commercial treaties, and so secure the fullest fruits of reciprocal trade.

Mexico has to-day a vast commerce, and is yearly increasing it at a rate that surprises one who knew Mexico in the revolutionary period. England, France, Germany, and Belgium seem to be fully alive to the value of this commerce and are striving to supply her wants and market her products with an energy and knowledge of the requirements of Mexican trade that our merchants could well study and profit by.

This great trade is at our very doors, and yet our manufacturers and merchants are putting forth but inadequate efforts to secure it. It will not come to them; they must diligently seek it, as their rivals in trade from Europe are doing. There is hardly a mail that does not bring to the United States consular officers in Mexico catalogues, circulars, and price lists of manufacturers in the United States seeking Mexican trade. Consuls distribute them and do all possible to promote trade, but catalogues and price lists alone do not make trade.

I doubt if there are twenty American commercial houses in all Mexico; there is probably a German house in every town of fair size in the Republic. The heads of these houses, as a rule, come to Mexico as junior clerks; one might call them commercial apprentices sent out by the great German houses of Hamburg and Bremen. These men speak Spanish, know the Mexican people socially and study their commercial needs, and are keen, shrewd traders. Every German commercial house is a center from which to watch the trade of a large district; credits can be intelligently given with a minimum risk and are much longer than can ordinarily be secured in the United States, running from 9 to 15 months.

Until our manufacturers and merchants take a lesson from our German traders, they can not expect to make satisfactory progress in securing Mexican trade.

American goods and manufactures of every line are favorably regarded in Mexico when known. This part of the commercial battle is already won, but their sale must be actively pushed by alert agents in Mexico that speak Spanish and know the people and their methods of trade.

Commercial agencies might profitably be established in the larger towns by the coöperation of several large manufacturers. Samples, not price lists, should be the equipment of such agencies; Mexicans, like other people, like to see what they may buy. The heads of such agencies will soon learn whom to trust and give credits on sales accordingly; they should be fully posted as to freights, modes of packing, customs duties, and final cost to buyer.

LACK OF STATISTICS.

In closing this report, I desire to again most earnestly call the attention of the Department to the need of adopting methods to collect statistics of what we sell to foreign countries when shipped from inland frontier ports. Our trade with Mexico by rail at Nogales, El Paso, Eagle Pass, and Laredo reaches large amounts, but only shrewd guesses can be made about it. No sworn exhibits of these exportations are required to be made to our frontier custom-houses.

It is believed that the United States is the only country that does not accurately know what she sells to foreign countries. The filing of a sworn list of the export shipment, stating volume, quantities, and where produced, should by law be made mandatory.

EUGENE O. FECHET,
Consul.

UNITED STATES CONSULATE,
Piedras Negras, August 10, 1891.

INDUSTRIES AND TRADE OF COAHUILA.

REPORT BY CONSUL FECHET, OF PIEDRAS NEGRAS.

The State of Coahuila is receiving its full share of the general prosperity and advancement prevailing throughout the Republic of Mexico. The population of the State is 184,327, as against 144,000 by the last official enumeration.

Much attention is given to schools. To quote from the official gazette of the State—

> Public instruction has augmented in the numbers of its schools in full proportion to the increase of population. There has been established a great number of special schools for boys and girls in the chief towns and villages of the State.

AGRICULTURE.

For several seasons the rainfall in Coahuila has been very scant. The spring and summer of 1891 have been marked by prolonged droughts over the larger portion of the State. In the Laguna district, an extensive region watered by the Rio Nazas and producing cotton as the chief staple, there has been a scarcity of water for the past 3 years, and this year's cotton crop, it is estimated, will be under 40 per cent. of the average annual output. The rich vineyard district of Parras also has suffered from lack of water, and the vintage will suffer somewhat. In the Sabinas district corn and cotton will yield but 60 per cent. of last year's crop, notwithstanding increased acreage. In the Rio Grande district the cotton yield will be an average one.

MINING.

Coal.—Coahuila possesses within her borders the only coal mines that are worked in the Republic, and within the State coal-mining is confined to one locality in the Sabinas region, notwithstanding that coal measures, with but little doubt, underlie the larger portion of the eastern half of the State. Coal-mining is to-day the most important industry in the State, employing more capital and labor than any other. There was mined in the year ended June 30, 1891, 105,356 tons of coal, and 4,553 tons of coke were manufactured. Of this large tonnage output 38,223 tons, valued at $192,112.25, were exported to the United States.

Precious metals.—The past year has witnessed a marked growth in the mining of precious metals. New mines have been discovered and developed and work on old mines resumed under the impetus of a home market for ores.

STOCK-RAISING.

Formerly Coahuila was one vast stock range, save in the smaller valleys near water courses where agriculture by irrigation was easy and simple. Gradually and surely the larger valleys, under larger and more comprehensive systems of irrigation, are being devoted to agriculture, and stock-raising confined to the uplands. Fencing of ranges and improving stock by breeding are gradually replacing the old loose methods in vogue.

The industries of railroad construction and operation, mining of coal and the precious metals, and stock-raising employ many men, the supply of whose wants makes an excellent home market for the products of the farm, vineyard, and garden, and, in consequence, agriculture is steadily growing by increasing acreage brought under irrigation.

COMMERCE.

The past year has been one of fair business activity throughout this consular district, about coextensive in territory with the State of Coahuila. There had been some grounds to fear that the aggregate of commerce for the year 1890–'91 would reveal a great falling off as compared with that of 1889–'90. These fears were based upon the heavy losses resulting from the prolonged droughts prevailing throughout a large portion of Mexico and upon the unknown (and hence exaggerated) effects of the new tariff laws of the United States.

A review of commercial transactions for the past fiscal year in this consular district shows an increase over the preceding fiscal year (1889–'90) both in imports and exports, and, comparing values of exports and imports to and from all countries with corresponding values in former years, it is found that the commerce of this port is increasing annually.

The commerce of the year 1889–'90 was made up as follows: Exports to all countries, $2,302,994.01; imports from all countries, $4,240,440.16; a total of $6,543,434.17. For 1890–'91 there was a total of $7,779,529.51, made up as follows: Exports, $2,494,955.51; imports, $5,284,547; or a gain in 1891 of $1,236,095.34.

EXPORTS.

The total value of exports to all countries for the past 3 years is as follows: 1889, $1,734,281.73; 1890, $2,302,994.01; 1891, $2,494,955.51; a gain in 1891 over 1890 of $191,961.50. The gain in 1890 over 1889 was $568,712.28, showing that, notwithstanding an increase in value of exports at this port each year over preceding years, the rate of increase has greatly declined.

The percentage of increase in 1890 was over 25 per cent., while in 1891 it is but a little over 7 per cent. This loss of over 17 per cent. in rate of increase is chiefly due to two factors. It will be seen that the value of silver-lead ores exported in 1890 was $958,432 and $637,520 in 1891, a loss of $320,912, or over 33 per cent.; and the value of live stock exported in 1890 was $132,989.35, as against $24,097.71 in 1891, a loss in live stock exportations to the United States of $108,891.64, or over 81 per cent. We thus have an average loss on two articles of export, silver-lead ores and live stock, of 37 per cent.

As an offset to this large loss there has been a gain in values of many exports and an addition of several new exports. The chief articles of export that have been shipped from this port to the United States for the first time in 1890–'91 are: Antimonial ores, $13,303.22; silver-lead bullion, $116,577.11; copper matte, $4,075.39; cotton waste, $15,039.66; a total gain in new exports of $148,995.38.

The exports that show a marked increase over last year are coal, $30,995; horsehair, $4,000; ixtle, $64,693; nosebags of ixtle, $3,170; oranges, $9,018; goatskins, $17,342; and sugar, $2,857.

Ixtle.—The great development in the manufacture of ixtle fiber from the lechaquilla and palma real, as shown by an increase of $64,693 in 1891, is a marked feature of the year.

In a report on the "Fiber Plants of Coahuila" (CONSULAR REPORTS, February, 1891, No. 125) I called attention to the development of this comparatively new industry, and it is gratifying to note that the views there expressed as to the importance of this industry are verified by the largely increased exportation to the United States. There were exported to the United States in the fiscal year just closed 1,711,972 pounds of ixtle, valued at $79,496.52. In 1890 an experimental shipment of ixtle was made from this port to Liverpool, England. As no more shipments have gone to Europe, it is presumed that the United States offer the better market.

The large decrease in tonnage of silver-lead ores exported to the United States in 1890 as compared with 1889 has continued in 1891. Nearly one-half of the export ores shipped to the United States from this port comes from the interior consulates, and, in consequence, do not appear on the statistical records of this consulate.

The statement of declared exports from this consular district shows 5,175.51 tons in 1891, as against 14,484 tons in 1890 and 20,026 tons in 1889.

The values of ores from interior consulates shipped from this port to the United States in 1891 is $272,489.12. The tonnage corresponding to this value I have been unable to ascertain.

The total value of export silver-lead ores to the United States in 1890–'91 is $637,520.90, as against $958,432.63 in 1889–'90.

Exports to Europe.—The most marked feature of the past fiscal year as affecting trade between the United States and Mexico is the remarkable increase at this port of Mexican exports to Europe shipped on bonded transit through the United States.

In 1889 the total value of Mexican exports to Europe from this port was $377,046; in 1890 it had grown to $547,127.85, and in 1891 has reached the very large sum of $1,068,768.70. This large European export is made up chiefly from four articles, viz, silver-lead bullion, silver-lead ores, copper ores, and copper matte, and divided as follows: Silver-lead bullion, 15,428,747 pounds, valued at $936,272.49; silver-lead ores (crude), 1,322,024 pounds, valued at $88,509.03; copper ores (crude), 457,340 pounds, valued at $10,745.23; and copper matte, 357,512 pounds, valued at $29,897. Excluding silver coin, the total exports to the United States are valued at $1,270,186.76 and the European exports at $1,068,768.75, or, in other words, in a total value of exports from this port to all countries of $2,494,055.51, nearly one-half is Mexican exports to Europe, and this from an inland frontier port many hundred miles from water transportation to Europe.

This increased exportation to Europe, made up chiefly of lead bullion and ores, has a very direct relation to the diminished exportation of ores to the United States, and also to the loss of $262,529.40 in value of exports to the United States in 1890–'91.

Two years ago Monterey, in the State of Nuevo Leon, did not produce a pound of silver-lead bullion, and in 1891 nearly $1,000,000 of Monterey silver-lead bullion passed this port for Europe and the United States.

This statement seems to be a sufficient description of the wonderful development of the smelting industry at Monterey in the past 18 months.

IMPORTS.

The table of imports shows a total value of importations from all countries at this port of $5,284,574 (United States coin), and for the preceding fiscal year $4,240,440.16, a gain for 1890–'91 of $1,044,033.84. The duties collected on the importations for the year amount to $1,501,332.96 (Mexican silver).

The importations from Europe and the United States arriving at this port in bond are valued at $1,054,467.69 for the year 1890–'91, as against a value of $603,509.49 for the preceding year, a gain of $450,958.20.

The products of the United States shipped in bond for benefit of drawback amount to $84,283.48, a gain of $22,456.90 for the year, and embrace chiefly beer, sugar, petroleum, manufactures of iron, cotton-seed oil, and whisky.

Deduct from the total value of bonded importations the sum of $84,283.48 for the value of United States products in bond, and there remains $970,184.21 as the value of bonded importations from Europe to Mexico at this port.

The determination of the most important commercial question, what proportion of the total importations of the year are European and American, can not be fixed accurately, as the entries at the Mexican customs do not show clearly the country of origin.

In 1889–'90 the value of European goods in bond arriving at this port was $541,682.91, a gain in 1890–'91 of $428,501.30. This large increase is due to the very great importation from Europe of railway material, street rails, spikes, fish plates, etc., estimated at $714,732, leaving for the value of all other European goods (merchandise) in bond but $255,452.21. That is believed to be less in value than for the previous fiscal year, and hence it is concluded that, exclusive of railway material, the importations from Europe were less in 1890–'91 than in 1889–'90, and, as the total importations from all countries show a gain of $1,044,133.84, this gain has largely come from the United States.

The chief European imports are agricultural implements, machinery, structural iron, drugs and chemicals, soda potash, aniline colors, dyestuffs, hosiery, buttons, cottons (drillings and sheetings), cotton threads, linen and silk fabrics, woolens, ready-made clothing, earthen and glass ware, cutlery, paper, cardboard, etc.

IMPORTS FROM THE UNITED STATES.

With the exception of the record of the bonded shipments from the United States for benefit of drawback (value, $84,283.48), we have no statistical data to accurately determine the total value of United States exports entering Mexico at this port. However, by careful calculations along indirect lines, it is estimated that the imports at this port solely from the United States in 1890–'91 amount in value to $4,314,389.79, as compared with $3,698,757.25 for 1889–'90, a gain of $615,632.54.

Of the merchandise embraced in this large importation we have details covering $1,571,429.48, or about 36 per cent., viz: Cotton in bales, $319,576.50; lumber, furniture, etc., $56,875.50; petroleum (crude), $96,879; live stock, $1,013,816; United States products in bond, $84,283.48.

There remains $2,742,960.31 of estimated United States exports for which there is no data to show kind and value.

Food products, machinery, railway material, agricultural machines and implements, sewing machines, cotton and woolen goods, cutlery, boots and shoes, hardware, paints, drugs and chemicals, carriages, wagons, and cotton-seed oil are the chief items that make up the $2,742,960.31 of unclassified United States exports.

In my last commercial report special attention was called to the very remarkable and rapid growth of the live-stock importations into Mexico. In 1889–'90 this trade reached the grand total of $1,032,121, and this year the figures are $1,013,816 (United States coin), upon which the Mexican customs duties were $124,692.30 (Mexican silver).

Of this large live-stock exportation hogs constitute the largest share, there having been exported to Mexico 49,739 head, valued at $887,114.

It is very gratifying to know that this most valuable trade has experienced no material abatement in the fiscal year just closed.

Shipments of cotton in bales at this port more than doubled this year, there having been imported from the United States 8,359 bales in 1890–'91 and 4,108 bales in 1889–'90.

Owing to the severe droughts, the cotton crop this year in Mexico will be much below the yield of last year, and larger shipments from the United States may be looked for.

The same disastrous cause, the drought, has made heavy losses in live stock. Cattle and hogs are reported dying in large numbers.

The meat supply of Mexico will be short, and cattle and hogs from the United States must replace the home deficit, and, in consequence, it is very probable that live-stock exports to Mexico will be sensibly increased.

EUGENE O. FECHET,
Consul.

UNITED STATES CONSULATE,
Piedras Negras, August 10, 1891.

TREATMENT OF CHLOROSIS IN PLANTS AND TREES.

REPORT BY COMMERCIAL AGENT SMITH, OF MAYENCE.

About 2 years ago Professor Sachs, of Wurzburg, published a small pamphlet on the treatment of chlorotic garden plants and trees, in which he urged the use of copperas (green vitriol) in the treatment of garden plants for chlorosis, claiming that it was the best remedy that could be employed. This malady, which, in its advanced stage, causes the leaves of plants to turn white, is due to a lack of iron in the soil or to too rapid growth. From 5 to 9 kilogrammes (11 to 20 pounds) of copperas can be entirely absorbed, it is said, by 1,000 litres (1,056 quarts) of garden earth. If it is desired to heal chlorotic plants and trees of their trouble, the soil in which they are growing should be abundantly supplied with iron; but not in a concentrated form, as this might injure the roots, but in such a way that the salt would be gradually taken up by the ground. Professor Sachs recommends that a ditch of 20 to 30 centimetres (8 to 12 inches) in width and depth be dug around the tree or bush that is to be treated at a distance of 50 to 100 centimetres (half a yard to 1 yard) from it and a plentiful supply of water poured in. Then the copperas is introduced at the rate of 2 to 3 kilogrammes (4½ to 6⅗ pounds) for small bushes or trees and 6 to 8 kilogrammes (13 to 17½ pounds) for larger ones. The earth dug from the excavation is then replaced, being thoroughly mixed with the copperas by means of a hoe while being put back and afterwards well saturated with water. The sulphate dissolves gradually, some with each rain that falls.

This treatment will bring back to growing leaves their color, but full-grown leaves that have lost their color will not receive it back.

The publication of Sachs's has led the Royal Institute for Fruit and Vine Culture, at Geisenheim, near here, to make experiments with his remedy, and in its printed report of work done during the year 1889–'90 it gives the result thereof. A large number of fruit trees were subjected to the cure, not only for the real chlorosis, but for other premature loss of color in the leaves. Small trees received 1 kilogramme (2⅕ pounds), large ones 2 kilogrammes (4⅖ pounds), of copperas in the manner prescribed. The success met with was, with very few exceptions, exceedingly gratifying, and in most cases the leaves took on again their green color. Growing trees were more certainly restored than matured ones. Often the favorable effect of the treatment appeared at the end of 8 days. The general result of the experiments showed that certain kinds of fruit trees require a larger amount of iron than others, or incline in a greater degree to loss of color in the leaves.

Applications of the copperas were also made to see if parasites could not be dispersed by it also, as it is known that a change of the aliment a plant receives will sometimes drive them away. Experiments made in the spring on various dwarf apple trees achieved the desired effect in the case of certain plant lice, while applications made in summer to other trees had not, on any kind of plant lice, the effect sought. While, therefore, in this particular nothing positive can be affirmed for all cases, the experiments are regarded as worthy of consideration and frequent repetition, for which the spring should be chosen.

JAMES H. SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, June 5, 1891.

COFFEE INDUSTRY OF NICARAGUA.

REPORT BY CONSUL NEWELL, OF MANAGUA.

According to statistics from the department of the minister of hacienda, it is ascertained that the quantity of coffee exported from Nicaragua during the past 10 years has been as follows:

Year.	Quantity.	Year.	Quantity.
	Pounds.		*Pounds.*
1881-'82	12,026,200	1886-'88	12,424,300
1882-'84	12,696,400	1888-'90	19,786,400
1884-'86	14,247,200		

The harvest of the year 1890 will approximate, according to the calculations of various coffee planters and exporters, 11,300,000 pounds. In that estimate are also included 1,500,000 pounds that were consumed in this Republic. The above deduction is based upon the supposition that 1 manzana (nearly 2 English acres) is sufficient to grow 1,020 coffee plants, and that the plants will produce 1,000 pounds of coffee yearly.

It is believed that the total area of land used in the cultivation of coffee in all this Republic amounts to 14,000 manzanas. This also includes 3,000 manzanas of young coffee plants that have not yet commenced to produce.

According to the public records, the lands denounced from December 1, 1889, until December 31, 1890, amount to 24,598 manzanas, of which number 16,740 manzanas, it is estimated, are fit for the cultivation of coffee. The following is a detailed list of the different departments in Nicaragua, showing the number of manzanas denounced in each department and the number suitable for the growing of coffee:

Departments.	Denounced.	Fit for coffee.
	Manzanas.	*Manzanas.*
Nueva Segovia	148	....
Chinendega	150	....
Leon	161	....
Granada	750	240
Chontales	975	100
Rivas	2,617	500
Masaya	4,687	3,308
Managua	6,559	4,101
Matagalpa	8,551	8,491

There are one hundred and sixty-four claimants to the lands named above, and among them six foreigners, who became owners of Government lands at the period referred to through the medium of preëmption.

It appears that the mountains and high plains of the department of Matagalpa are the places most sought by agriculturists, as will be seen by the fact that the preëmptions cover the respectable figure of 8,551 manzanas, of which only 60 manzanas are adapted to coffee.

The hills of Managua, also, still offer a large contingent of land suitable for planting coffee; 4,101 manzanas are the number dedicated to that industry in the 13 months referred to.

The following table shows the quantity of coffee shipped from Nicaragua to various countries of the world from 1879 to 1888. I have been unable to gain any data upon the shipment of coffee for the years 1889 and 1890.

Countries.	1879.	1880.	1881.	1882.	1883.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*	*Quintals.*
England	19,196	21,616	24,254	30,704	19,550
France	3,382	3,441	6,337	9,105	9,714
Germany	3,763	4,390	6,239	11,358	10,572
Italy	284	3,353	2,893	1,061	1,112
United States	8,532	12,483	9,592	21,685	13,564
Colombia	....	....	....	174	42
Chile	227	....	....	196	....
Central America	4	....	....	....	27

Countries.	1884.	1885.	1886.	1887.	1888.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*	*Quintals.*
England	19,074	21,187	18,072	8,288	20,488
France	7,392	9,947	10,971	5,000	14,261
Germany	21,982	18,793	17,776	18,102	14,356
Italy	111	52	382	250	4,839
United States	23,820	20,336	23,314	27,000	34,261
Colombia	....	6	249	70	....
Chile	....	....	1,496	800	....
Central America	....	....	44	60	....
Spain	....	....	46	....	....

NOTE.—1 quintal=100 pounds.

The bulk of the coffee exported from Nicaragua goes to Europe, which can be seen by an examination of the above table. This is owing to the fact that the freight rate to the United States is higher, and also because the European houses give better facilities to the shippers of coffee.

The principal wealth of Nicaragua lies in her coffee plantations. Every year sees this industry augmented, and the time is coming when the coffee of Nicaragua will take stand with the best. This coffee is far superior to the coffee of Brazil; but this fact is unknown in the United States, because coffee brokers have not taken the pains to properly present the coffee to the public.

The department of Matagalpa in a short time will produce as much coffee as has been raised in the past in all the rest of Nicaragua. It is estimated that there are now in this department under cultivation 2,000,000 trees, which in about a year and a half will begin to yield. Ten million pounds of coffee should be produced annually from that number of trees.

Matagalpa labors under one disadvantage, and that is the want of the proper means of transportation for her produce. At the present time she has to depend entirely upon her wagon roads, but which, on account of the rough, mountainous country through which the roads pass, make it extremely difficult and expensive to carry the coffee to market. The Government, however, has in contemplation a railroad into this department, and before long the obstacles to transportation will disappear.

WILLIAM NEWELL,
Consul.

UNITED STATES CONSULATE,
Managua, June 13, 1891.

AMERICAN SHEEP IN SOUTH AFRICA.

REPORT BY CONSUL HOLLIS, OF CAPE TOWN.

Over a year ago I opened correspondence with Mr. Hanson F. Deane, of West Cornwall, Vt., called forth by my report to the Department. The question was presented, why could not American-bred rams be imported into this colony, and much information on this subject was furnished me by Mr. Deane.

Among others to whom this correspondence was shown was the Hon. Joseph M. Orpen, who is largely engaged in sheep husbandry and takes a lively interest in all that pertains to the industrial advancement of the colony.

From the following letter of Mr. Orpen's it will be seen that my efforts have borne fruit, and I have a lively hope that this is only the beginning of a considerable trade.

SIR: I did myself the honor to call upon you last year and ask information with regard to American stud sheep, mentioning that such information might lead to some business being done between the United States and this colony, which trade had hitherto been prevented altogether by absolute want of knowledge regarding American flocks, not a sheep, I believe, up to then having been imported here from America. From information you gave me, which led to my obtaining still more, I have been able to secure: (1) The New York Merino Association Register, vols. 1 and 2; (2) the register of the Vermont Atwood Merino Sheep Club, vol. 1; also several photographs of rams and ewes from New York and specimens of wool. Finally, I ordered as a trial shipment four rams from New York, of Mr. Markham, through Messrs. Van Der Byl & Co., of Cape Town. One died on the voyage; the others have just arrived. They are much admired, and I think this will lead to more business, as I believed would be the case when I first spoke to you on the subject. I have here to compare with these sheep imported from Saxony, Victoria, Tasmania, and elsewhere. You will see from this that I am impartial and wish to obtain and impart reliable information. I shall show the books, etc., to members of Parliament during our coming session, also photographs and specimens of wool. Besides this, many visit and see the animals for themselves. My object in writing is to take the liberty of mentioning my opinion that if such books as I have indicated were furnished to you for your consular library, and perhaps photographs and specimens of wool, it might be of value to both countries and promote trade between them. In a book now before me, the American Merino, I find mentioned other breeds of sheep of considerable celebrity in America, as follows: The Delaine merinos, the national improved Saxony, and the black top merino. These three breeds are represented by associations of breeders, and have registers—printed and illustrated volumes—which would be of use in your library, with specimens of wool, photographs, etc., for each race has characteristics which will cause it to have its admirers here in parts where these characteristics are suitable to the country or to improve special breeds already in such parts. May I suggest your mentioning this to the secretaries for agriculture of the States of Ohio, Pennsylvania, Vermont, Michigan, and Virginia, where stud-sheep breeders are. The headquarters of the three races mentioned above appear to be in Washington County, Pa.

If any of the associations named would consider it worth their while to send such volumes, specimens, and photographs to me, they would secure an effectual advertisement, as the result of the information already received will show you.

Faithfully yours,

JOSEPH M. ORPEN, *M. Q. A.*

I have given this letter of Mr. Orpen's special prominence for the reason that it gives so fully the views of a practical sheep-breeder and adds weight to my convictions on this subject.

I have also at hand a letter from another sheep-breeder, Mr. Charles R. Whitherell, of Cornwall, Vt., in which he says:

> I received your letter of December 5, and I have decided to make the venture, and will leave New York for the Cape about April 15 with forty-five of the best breeds of rams, all of which are registered and of the best pedigree. I shall probably arrive about June 1.

I have scattered the news of this shipment of blooded stock throughout this colony, the Orange Free State, Transvaal, and Natal, and entertain high hopes of a successful issue, and shall take particular care in selecting the fittest place for exhibition.

While a new Africa is being opened to settlement in the region north of the Transvaal and south of the Zambezi River and a class of people are coming in who are imbued with the progressive ideas of the period, it is no less true that the people of the older settlements are awakening to the truth that they are behind the times and are realizing that to compete with the world they must adopt modern improvements. By reason of the influx of immigrants consequent on the occupation of the Zambezian territory, a larger market will soon be opened to our manufacturers of agricultural and mining machinery; and the native people, though now working to earn sufficient money to purchase the requisite number of cattle to exchange for wives, will soon find their wants broadened by contact with the white race, which will augment greatly the volume of trade, of which, I trust, the United States will secure a liberal share.

GEO. F. HOLLIS,
Consul.

UNITED STATES CONSULATE,
Cape Town, May 12, 1891.

ENGLISH-SPEAKING EMIGRANTS IN BRAZIL.

REPORT BY MINISTER CONGER, OF RIO DE JANEIRO.

In view of the fact that this legation is constantly in receipt of communications from various parts of the United States from persons thinking of emigrating to Brazil, I have the honor to inclose a clipping from the Rio de Janeiro News of June 23, 1891, which shows the destitution frequently resulting from hasty emigration.

I may add that anyone not speaking the language will find it very difficult to obtain employment, and I suggest that these facts be given in some form to the public.

E. H. CONGER,
Minister.

UNITED STATES LEGATION,
Rio de Janeiro, June 24, 1891.

ENGLISH AND IRISH IMMIGRANTS IN BRAZIL.

[Inclosure in Minister Conger's report.—From the Rio de Janeiro News of June 23, 1891.]

Of the English and Irish immigrants who arrived here in February last many have already come to grief. They were sent up to São Paulo, where the majority of them still remain; but some have found their way back to this city, a considerable number have gone to Paraná, and for a time a large number were living a life of vagabondage in the streets of Santos. There are a dozen or so still there without means and without employment, and subscriptions are being solicited to send one poor woman back home. Of those who came back to Rio, one case deserves particular mention. Not a month ago two married couples—one English and the other Irish—returned to this city, and appeared to have made a great part of the journey on foot. They arrived here in a state of extreme destitution and exhaustion, and found shelter only through the benevolence of a stranger. The two men obtained work, but both soon took the yellow fever and died. The Englishwoman also died, more from destitution, perhaps, than fever, and left a half-starved little girl 2 or 3 years old to the charity of strangers. The other woman escaped the fever, but is extremely poor and in a delicate condition, and will eventually be sent back home. This is, perhaps, no worse than many other cases which have happened, but it shows what the English immigrant may expect in a country so different in every respect from what he has been accustomed to. All these people complain of the deceptions practiced to induce them to emigrate, while some of them complain of deliberate swindles, which ought to be exposed and punished. One of these appears to be the sale of tickets to interior localities, which are found to be worthless on their arrival here. There are no inducements whatever in Brazil for farm and unskilled laborers, and the more thoroughly that fact is advertised throughout Great Britain the better.

BERLIN INSANE ASYLUM.

REPORT BY CONSUL-GENERAL EDWARDS.

The number of persons suffering from diseases of the mind who were under municipal care at one time was, on the average, as follows:

Year.	Number.	Year.	Number.
1883	1,582	1887	2,174
1884	1,722	1888	2,320
1885	1,868	1889	2,501
1886	1,979		

This increase exceeded the rate of increase of population three to one. While the population increased in this period 22.49 per cent., the number of mentally deranged persons under the care of the city increased 59.79 per cent. This, however, is stated not to be due to an increase of insanity, but to the improved facilities of the institution, the insane being less than 0.2 per cent. of the entire population.

The following table is taken from the Berlin Medicinal Encyclopedia, vol. x, p. 350, the figures being correct on December 1, 1880:

Provinces.	Total number of deranged persons.	Number per 10,000 of population.	Persons in insane asylums.	
			Number.	Per cent.
East Prussia	4,044	20.9	578	14.3
West Prussia	2,961	21.1	434	14.7
City of Berlin	1,985	17.7	1,193	60.1
Brandenburg	5,695	25.1	1,941	34.1
Pomerania	3,418	22.1	765	22.4
Posen	2,738	16.1	366	13.4
Silesia	8,357	20.9	2,228	26.7
Saxony	4,809	20.8	1,333	27.7
Schleswig-Holstein	3,800	33.7	1,181	31.1
Hanover	6,317	29.8	2,119	33.5
Westphalia	5,348	26.2	1,285	24
Hesse-Nassau	4,715	20.3	1,407	31.7
Rhineland	12,020	29.5	3,924	32.6
Hohenzollern	138	20.4	50	36.2
Total	66,345	24.3	18,894	28.5

The municipal asylum at Dalldorf originally offered accommodations for 1,000 patients. By careful rearrangement its capacity was extended to 1,300, and in 1887 two so-called colonies were established at a distance of 15 or 20 minutes from the central institution. These colonies look more like ordinary country houses than like insane asylums, and they offer the beneficial influence of agricultural employment to about 60 males. A hot-house near by gives cheerful employment to others, and the cut and potted flowers thus obtained are used to beautify the rooms of the unfortunates. Many patients also take a keen interest in the raising of poultry.

Accommodations, however, were entirely insufficient, and many applicants had to be sent to private asylums. At the end of March, 1889, there were twenty-three private asylums with 1,150 patients—543 men and 607 women. These private institutions are under the supervision of the *Curatorium* of the municipal insane asylum, each member of the *Curatorium* having certain private asylums to visit at least once during the year. A written report of each such visit must be made to the *Curatorium* at its next following sitting.

While many of these private asylums have the advantage of cheerful situations and home life, still, as a rule, they do not give the patients sufficient occupation. It is, however, hoped that this temporary arrangement will continue sufficiently satisfactory until the new asylum has been finished.

It has been found that many insane persons are capable of doing useful work outside of the asylum, and, accordingly, many of them have been placed in private families in the villages near the asylum, where they are under the constant supervision of the asylum physicians, a sum not exceeding 20 or 25 marks per month being paid out for each person thus cared for. Besides being better for the patient, this plan was found to be cheaper for the institution.

In order not to make the insane asylum an institution for the poor exclusively, on March 13, 1883, the following regulations were adopted:

(1) The number of such paying inmates must not exceed 50 per cent. of the total number.

(2) The rate to be paid is to be decided by the *Curatorium* after careful inquiry in regard to the property belonging to, and the income of, the patient and those responsible for his sustenance. This amount can not be less than 1 mark per diem.

(3) The paying patients have no right of claim to treatment different from that accorded to charity patients.

To what extent this arrangement has been made use of is shown in the following tables:

Table showing the number of nursing days and expense.

Year.	Number of nursing days.	Expense.		
		Paid by patients' relatives.	Paid by the city.	Total.
		Marks.	*Marks.*	*Marks.*
1883–'84	5,899	7,262.21	4,423.68	11,685.89
1884–'85	4,850	5,949.28	3,231.77	9,181.05
1885–'86	3,387	4,445.24	1,559.98	6,005.22
1886–'87	11,860	16,384.00	6,149.94	22,534.00
1887–'88	10,099	14,572.65	3,656.34	18,228.99
1888–'89	14,867	22,771.86	5,208.81	27,979.67

Table showing the number of persons admitted.

Rate.	1883–'84.	1884–'85.	1885–'86.	1886–'87.	1887–'88.	1888–'89.
Per diem:	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
1 mark	11	15	13	20	16	15
1.20 marks	....	....	....	....	1	1
1.25 marks	....	....	....	....	1	1
1.32 marks	....	1	1	9	....	1
1.50 marks	....	....	....	1	2	2
1.60 marks	....	....	....	2	1	1
1.75 marks	....	....	....	....	1	1
1.90 marks	....	....	....	....	....	11
2 marks	12	4	7	10	12	18
Per month:						
30 marks	....	1	1	1	1	1
39 marks	....	....	....	....	....	1
39.50 marks	....	....	....	....	1	....
45 marks	....	....	....	....	....	1
50 marks	....	....	....	....	1	1
Per annum:						
400 marks	....	....	....	....	....	2
600 marks	....	....	....	1	1	1
700 marks	....	....	....	....	1	1
900 marks	....	....	1	....	....	....
Total	23	21	23	44	39	59

The inner life of the asylum has expanded in various directions. During the period under report a new teacher was added to the staff, whose business it is to instruct in elementary branches patients sent to him by the physicians and to interest others in geography, history, and the natural sciences. Also, under medical oversight, he directs small musical, declamatory, and theatrical entertainments. This teacher has also charge of the library and leads the singing on Sundays.

The following table shows by groups the sort of employment given to the patients in the two larger pavilions:

Date.	Number of patients.	Employment.					
		Field laborers.	Hand laborers.	Asylum bureaus, kitchens, etc.	Hair and straw workers.	House domestics.	Total.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
June 5, 1884	251	11.5	9.2	6.3	0.8	13.5	41.4
September 30, 1884	279	17.9	9	6.1	6.1	10.4	49.1
December 12, 1884	273	15.4	11	7.3	7.3	12.5	53
April 1, 1885	261	20.7	9.2	8	9.6	11.9	59
August 20, 1885	250	24.4	10.8	9.2	9.6	11.2	64
December 15, 1885	262	21	8.8	11.5	9.9	13.8	64
March 5, 1886	259	17	10	11.2	10.4	12.4	61

In the year 1888–'89, 36 men did 8,450 days' work in the field and 16 women 838 days' work during the summer. In the park 84 patients did 19,820 days' work.

In regard to the employment of the hand-workers in 1888–'89, the following table gives detailed information:

Month.	Tailors.			Shoemakers.			Carpenters.			Bookbinders.		
	No.	Time worked.		No.	Time worked.		No.	Time worked.		No.	Time worked.	
		Hours.	Days.*		Hours.	Days.*		Hours.	Days.*		Hours.	Days.*
April	7	1,078	154	18	2,233	319	14	1,813	259	3	203	29
May	7	1,162	166	17	2,583	369	15	1,897	271	1	175	25
June	9	1,435	205	18	2,982	426	16	2,422	346	1	182	26
July	10	1,624	232	17	2,737	391	15	2,478	354	1	182	26
August	10	1,771	253	17	2,653	379	16	2,359	337	2	273	39
September	9	1,568	224	14	2,219	317	14	2,254	322	1	175	25
October	9	1,652	236	13	2,184	312	14	2,254	322	2	301	43
November	10	1,750	250	13	2,120	310	15	2,380	340	1	182	26
December	12	1,736	248	11	1,729	247	15	1,981	283	1	161	23
January	10	1,666	238	15	2,072	296	12	1,967	281	2	336	48
February	8	1,344	192	14	2,170	310	15	2,086	298	2	336	48
March	10	1,610	230	12	2,058	294	15	2,191	313	2	357	51
Total.	......	18,396	2,628	......	27,790	3,970	......	26,082	3,726	......	2,863	409

Month.	Upholsterers.			Straw-plaiters.			Painters.			Hair-pluckers.		
	No.	Time worked.		No	Time worked.		No.	Time worked.		No.	Time worked.	
		Hours.	Days.*		Hours.	Days.*		Hours.	Days.*		Hours.	Days.*
April	8	1,246	178	10	1,225	175	2	322	46	17	2,114	302
May	8	1,281	183	10	1,407	201	2	350	50	10	1,435	205
June	9	1,260	180	15	1,757	251	2	364	52	7	175	25
July	10	1,456	208	10	1,736	248	6	1,092	156	......	....	....
August	10	1,806	258	9	1,540	220	6	1,134	162	......	....	....
September	10	1,379	197	10	1,379	197	2	350	50	......	....	....
October	2	378	54	10	1,456	208	2	378	54	28	4,326	618
November	2	357	51	16	1,638	234	2	203	29	29	3,591	513
December	2	336	48	12	1,862	266	2	294	42	29	3,766	538
January	2	350	50	13	2,072	296	3	364	52	35	3,864	552
February	2	336	48	12	1,855	265	3	364	52	31	3,584	512
March	2	364	52	14	2,030	290	3	546	78	23	3,171	453
Total	......	10,549	1,507	......	19,957	2,851	......	5,761	823	......	26,026	3,718

* 7 hours.

In addition to these, during the course of the year there were engaged outside of the workshops in the pavilions: As tailors, 10 persons working 13,405 hours, or 1,915 days; as shoemakers, 4, working 5,663 hours, or 809 days; as bookbinders, 1, working 1,596 hours, or 228 days; as hair-pluckers, 6, working 1,603 hours, or 229 days; as cigar-makers, 2, working 756 hours, or 108 days; as brush-makers, 2, working 3,500 hours, or 500 days.

The value of the work thus done in 1888–'89 was 9,598 marks. The value of work done by women in the sewing rooms was 7,278 marks.

During the period under report the sanitary condition of the asylum was entirely satisfactory, there having been no epidemics.

The drainage is all used on the asylum's irrigated farm. The employment offered to the patients is of many sorts. The number of males in the insane department who were given employment in the year 1886–'87 was 65.4 per cent. of the whole number.

The asylum library contains 1,465 volumes.

Small dances, musical evenings, and theatrical performances (patients being usually the actors) are permitted for the entertainment of the unfortunates.

In the year 1888–'89 about 60,000 tons of coal were used at the asylum.

In view of the fact that as much freedom of movement as possible is allowed to the patients in garden, field, and workshops, there is little cause for wonder that there are some escapes. The number of these escapes was as follows:

Year.	Number.	Year.	Number.
1883–'84	23	1886–'87	29
1884–'85	22	1887–'88	34
1885–'86	22	1888–'89	32

Most of these, however, were harmless patients; the others were more closely watched.

Owing to the nature of the institution, it has been found difficult to keep servants for any length of time, notwithstanding that the wages paid are comparatively high. In addition to free board and washing, the overseers receive, on the average, 1,000 marks per annum; the female overseers, 750 marks; male employés, 450 marks; and female employés, 350 marks.

The cost of keeping each patient was, in 1886–'87, 2.01 marks per diem; in 1887–'88, 1.929 marks; and in 1888–'89, 1.86 marks.

	Marks.
Paid to private asylums per diem for each patient cared for at municipal expense	1.80
Clothing, underclothing, bed linen, etc.	.13
General contingent expenses	.075
Pro rata expense:	
Vehicles	.004
Christmas presents	.013
Assistance upon dismissal	.001
Funerals	.001
Interest	.009
Average expense incurred per diem for each person confined at municipal cost in a private asylum	2.033

From April 1, 1887, the magistracy fixed the rate at 1.90 marks per diem, both for patients in private asylums and for patients in the municipal asylum at Dalldorf. This amount, however, is insufficient, and in 1888–'89 the deficit was 24,720 marks greater than in the preceding year. In 1887–'88 the amount was 135,184 marks; in 1888–'89, 159,904 marks.

The amount given out for patients nursed in private families in the villages near the asylum in 1888–'89 was, for a total of 18,481 nursing days, 14,503.55 marks, or 0.785 mark per diem, as compared with 0.725 mark in the preceding year. By a special arrangement with the Charité Hospital all persons found in the city to require immediate asylum care were first taken to that institution. So soon as they were found to be incurable, however, they were removed to Dalldorf.

The following table shows that the insane department of the Charité Hospital serves almost entirely as a depot for the municipal insane asylum:

Year.	Number of deranged persons admitted into the Charité Hospital on municipal account.	Number of nursing days.	Under charge of—			
			City of Berlin.		Charité Hospital.	
			Patients.	Nursing days.	Patients.	Nursing days.
			Number.	*Number.*	*Number.*	*Number.*
1882-'83	860	33,809	830	31,973	30	1,836
1883-'84	890	37,773	844	34,930	46	2,843
1884-'85	962	34,448	931	33,666	31	782
1885-'86	1,026	36,315	992	35,031	34	1,284
1886-'87	1,130	36,648	1,110	35,611	20	1,037
1887-'88	1,179	37,772	1,158	37,260	21	512

For insane patients alone the city paid to the Charité Hospital, in 1887-'88, 113,316 marks.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, May 2, 1891.

AMERICAN-BRAZILIAN TRADE.

REPORT BY CONSUL-GENERAL DOCKERY, OF RIO DE JANEIRO.

I have the honor to inclose the following interview, requested by a leading Brazilian of this city. Said interview was sought by him in person. At my instance his interrogatories were put in writing, the original of which, with my answers thereto, are respectfully forwarded to the Department. I declined, with his consent, to publish them here directly from this office without the acquiescence of the Department. Consequently, I inclose the whole case to you, respectfully suggesting its publication in the CONSULAR REPORTS. It answers, I think, fully all the objections urged here to the treaty and more fully still the hundreds of inquiries reaching me from the United States, which I can not answer promptly nor often satisfactorily.

This whole issue, in practical results, hinges on queries numbered 5 and 6, and, unless observed substantially as answered, in my judgment no good will result. No goods can be sold here by sample. The competition is now too sharp, and the resolution among competing nations is too determined for such a roundabout, delaying process to win. Indeed, the "commercial traveler" is regarded here as a peculiar American institution, and, under the new phase, as farcical; contrary, at such a distance, to business habits; in utter disregard to the wants, views, and usages of the people; and a complete fulfillment of the damaging assertion that the United States merchants and manufacturers will not observe "peculiar customs," but will continue to "force their goods on the people of Brazil." In that event the proverbial "we told you so" aptly comes in. Success demands—as other nations have ascertained and are now practicing—the actual establishment of warehouses with goods for sale and delivery, either on consignment to responsible parties or under the superintendence in person of the owners thereof. This is now a wonderful field for enterprise, and other nations are actively engaged in reaping a large percentage of the rich harvest. American merchants can not afford to lose it, and, if properly utilized by them, will furnish remunerative markets for goods now produced largely in excess of home demands.

O. H. DOCKERY,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rio de Janeiro, April 16, 1891.

QUESTIONS PROPOUNDED TO CONSUL-GENERAL DOCKERY.

[Inclosure 1 in Consul-General Dockery's report.]

(1) Can Brazilians consider that the recent treaty is the result of a general consensus of opinion of the commerce of the United States, or is there any basis for the suspicion that the treaty has political tendencies in which Brazil has no interest?

(2) Has the commerce of the United States carefully investigated the necessities of Brazilian consumers? Peculiarities that have for years been studied by European merchants engaged in the Brazilian trade require an attention from the American merchants desirous of entering into competition that has not, so far, been very apparent.

(3) Are manufacturers in the United States prepared to furnish what is asked for? By this we mean, will the manufacturers furnish cotton goods of a quality lighter and cheaper than the general class of American fabrics used in the United States, that are not suitable, in many cases, for the needs of markets in the tropics? Will hardware be furnished as required, without the attempt to force upon consumers articles they do not want merely because these articles are accepted in the United States?

(4) Does the consul believe that American merchants are prepared to grant those credit facilities to which our traders have become accustomed? Without discussing the question of credit or cash, we submit that the usages of commerce in Brazil are of difficult modification. If means of communication with the interior have developed, the system of the dealers of the interior has not. Sales of merchandise are made to farmers and planters on credit, and the Rio de Janeiro dealer must grant his purchaser similar facilities.

(5) If there be really an organized movement on the part of American merchants to claim a due share of Brazilian trade, how can it be satisfactorily explained to German, French, Belgian, and British merchants that the commerce of the United States declines to establish houses in Brazil?

(6) The consul is aware that the advantages offered Brazilian merchants by those of the United States have so far been restricted to a class of "commercial travelers" furnished with samples, ignorant, in many cases, of custom-house regulations, foreign exchanges, etc.; whereas the European merchants carry important stocks, educate staffs of clerks, and enjoy

credit that is unattainable by a representative whose stock in trade only too often consists of catalogues.

(7) Does the consul think that the people of the United States have considered possible demands to be made upon them for the development of Brazil? A new, growing, and, in great part, unimproved country, Brazil must be a borrowing nation for years. Will the United States furnish those facilities hitherto granted by England, France, Germany, etc., application to which has become impossible with the decreeing of the treaty? Do the merchants of the United States entirely understand that Europe can not be called upon to furnish cash to pay for American products?

(8) Does the consul think that the true position of exchanges between Brazil and the United States is thoroughly understood by American merchants? Do these appreciate that the coffee, rubber, sugar, and hides imported from Brazil are not paid for in gold, coin, or bullion, but by the exports to Europe of American products, viz, petroleum, cotton, cereals, pork and bacon, beef, tobacco, etc.? And has the manner of settling the balance in favor of Brazil been properly studied?

(9) Finally, what article of American produce included in the exemptions or reductions of the new tariff can be pointed out as having been prejudiced by former tariffs?

CONSUL GENERAL DOCKERY'S REPLY.

[Inclosure 2 in Consul-General Dockery's report.]

UNITED STATES CONSULATE-GENERAL,
Rio de Janeiro, March 20, 1891.

Dr. ———

SIR: Yours of a recent date, containing subjects for proposed interview, was duly received, and but for a slight illness, together with a heavy pressure of official business, would have been earlier attended to. It affords me pleasure to accede to your proposition for an expression of my views in regard to the controverted issues involved in connection with the commercial reciprocity treaty recently ratified between the United States of Brazil and the United States of America. It is, however, apparent that some of your interrogatories are manifestly extraneous to the legitimate issues under consideration and partake somewhat, by implication at least, of the bitterness of the contention indulged in by outsiders, who claim a monopoly of all South American enterprises, with the inherent right to control all her interests, yet at the same time unreservedly and undisguisedly proclaiming an innate, inherent, fundamental horror of all her forms of government. This, to say the least, is unneighborly and uncharitable. I had the honor to witness the earliest outburst of public sentiment in November, 1889, which resulted in the peaceable establishment of the Provisional Government under the guidance of her leading republicans and ablest statesmen. Day by day have I been a close and earnest observer of passing events, often, I admit, with anxious solicitude, and at times with fearful forbodings, yet always with hope and the deepest concern. Such incertitude, I am proud to know, is now removed, and yours is a constitutional Government, founded on popular sovereignty, with the people on top and in full command of the reins of power, and who have selected for their first President an honest, intelligent, and patriotic gentleman, who will fill the chair of state with great honor to himself and lasting usefulness to the people of his native land.

It was likewise my pleasure, in the temporary absence of Minister Adams, to cable to my Government the first information of this popular uprising, and in due time, after further correspondence with our legation, instructions were received to "maintain diplomatic relations with the Provisional Government," which was speedily followed with full and unqualified recognition of the new Republic. With a view to more emphatic significance still to this manly act of recognition, the United States Government sent out at once, thousands of miles, three large, new war vessels to salute your flag of the Southern Cross, which so beautifully and aptly emblazons your national ensign.

Amid all this outspoken friendship and heartfelt zeal in your behalf as a people on the part of my Government and other sister republics of the American continent, it is pertinent and of interest to inquire, where were then the countries other than republics who now claim to be the especial guardians of Brazil's interest, financial and commercial? Where were then that sympathy and love so conspicuously proclaimed now? When your liberties were in peril; your claim to the right of local self-government, in accordance with a continental usage, was involved; your very autonomy as a people at stake, why so much cool indifference then, and such excessive, overweening anxiety now in a purely sordid matter of pounds sterling or cool, hard dollars and cents.

Excuse this seeming digression, for it has a purpose, as it fully answers in advance several of your interrogatories as to the animus of the United States Government. Friends then, friends now; *per contra*, indifference then, distrust now.

I shall not undertake to answer your interrogatories fully nor seriatim, but will, in as concise a manner as is consistent with the importance of the issues involved, give you such replies thereto as, I think, should be satisfactory to your Government and people.

Your first inquiry is in its nature insidious and discloses the crafty expedient of the enemies of the treaty. Let me assure you, in reply thereto, that this proposition is not, in the United States, connected with politics; nor is it in any sense a political question, but is cordially supported by the ablest statesmen of both the leading parties; nor is it in its inception a plant of recent growth. The illustrious Clay, the able premier of Mr. Adams's administration, as early as 1826, was the earnest advocate for the convening in Washington of an international congress of all the South American nations with a direct view to closer political and commercial relations. This action of his was nonpolitical and antedated even the formation or existence of the present political parties of the United States. Mr. Blaine, the equally able and distinguished premier of Mr. Garfield's administration, in the early days thereof formulated for the American States a similar policy, but the untimely death of the President for the time being terminated its consideration. Now, in 1891 (55 years after its inception), the same distinguished statesman has, by his active agency and potential influence, consummated this wise and mutually beneficial policy. Hence it can not be political in its significance, and there is "no basis for the suspicion that the treaty has political tendencies." This artful outcry is intended to mislead and to divert attention from the genuine issues. Yet this treaty has "political tendencies" otherwise than domestic and local, as you intimate. The drift of this tendency is patent and undenied, and can be summarized in a few sentences. The truth has never been concealed that there is a desire, strong and growing, among all the sister republics of the American continent to adopt a policy which will eventually free them from a dependence on monarchical Europe, whose interests and governmental policies antagonize our free institutions and induce them to look with dismay on the rapid growth and marvelous prosperity of the United States of America, which has so speedily, easily, and effectually outstripped the older empires of the other continent, not only in population and wealth, but in the intelligence, contentment, happiness, and general well-being of its citizens. Although they do not relish our methods of government, yet they are ever ready to monopolize, if possible, the earnings of our continent and hold us in subserviency by means of the gold, or its equivalent, we furnish them.

All this tender interest suddenly awakened for the people of Brazil is too transparent to swallow with "its barbed hook." The people of this continent will continue with increased zeal to cultivate this "political tendency," regardless of dictation from others, until it culminates in the grandest fruition of modern times—an assured independence from the outside world, political, commercial, and financial. We will continue to insist, on all proper occasions and by all lawful methods, that America must and shall be for the Americans, for we are Americans all.

Your second inquiry, though adroitly worded, is likewise candidly answered. The usages and customs peculiar to each and every nation are and must be carefully considered when propositions for trade or other relations are proposed or opened. This, in the commercia world, is a rule of universal application, and its necessity and importance are fully recognized by the merchants and manufacturers of the United States as essential if success is to follow the venture. The wants and needs of the people of that great Republic—a country peculiarly favored of Providence; of vast, almost boundless, resources; of every variety of soil and production; of every variation of climate, from the tropics of Florida to the Canada line, upon the frozen lakes, and from the agricultural and manufacturing slope of the Atlantic across the continent, with its varied industries of husbandry, minerals, and utilized water and steam power, to the placid Pacific; with large cities, towns, and villages and a thriving, prosperous energetic, thinking people densely populating this vast area—have hitherto commanded all the energies, untiring and unintermittent, of that peculiarly energetic people. Yet the work is grandly done. Behold the scene, and judge for yourself if such stupendous results, in progress and improvement unprecedented, are compatible with ignorance and indifference. Such astounding achievements speak louder than words an' reply, "How can such a people fail to recognize 'the peculiarities of the Brazilian trade?'" Success in this new field of enterprise hinges largely on this point, and you do an injustice when you indirectly impute to us ignorance of these important considerations and craftily ascribe superior sagacity and greater aptitude for business to our great rivals on the other continent. In this movement our Government "means business," as will be "apparent" to the outside world, for no ordinary obstacle impedes its progress.

Your next query is substantially already disposed of. A people who expect, under any circumstances, to sell within the tropics wearing apparel only adapted to cold latitudes or costly raiment to the laboring classes here or elsewhere is more than slightly demented; and among the ten thousand charges brought by others against our people I have not yet heard this specific accusation, nor, be assured, will United States manufacturers undertake "to force upon consumers (here or elsewhere) articles they do not want because these articles are accepted in the States." You pay a very poor compliment to the Brazilian republicans in propounding such a question. Republics may be convinced, but not "forced;" republicans persuaded, but not "coerced." This treaty does not, in any sense, "force" Brazilians to trade with the United States, and, if prices, styles, and terms do not suit, they can withhold their patronage, in which event our competitors abroad—now so terribly excited and so remarkably prolific of surmises and baseless innuendoes—will not be molested and can at pleasure resume their accustomed monopolistic tendencies.

In answer to No. 4, the United States consul-general does not believe that European merchants are disposed or accustomed to sell their wares "on long credits" to irresponsible parties, nor does he believe that any sane merchants or manufacturers would refuse to negotiate with responsible parties. On the latter basis time sales are made in the United States, and money and supplies likewise issued to farmers and planters in the interior for the preparation of the soil, planting, cultivating, gathering, and moving of the crops. If so there, why not, in a short time, here? But, if satisfactory terms can not be made here, who is hurt? Surely not the European importer. Nor is there a disposition to "force" the cash out of your people in payment for such goods as may be sold. This is simply a matter for agreement between the contracting parties and rests solely on mutual consent and business habits. I can see no reason why—nor do I concede such to exist—American merchants can not operate in Brazil on terms equally as favorable to the people as merchants elsewhere. They have the money, the brains, and the energy to compete anywhere and in any field and have never been outstripped in any legitimate business or commendable enterprise.

Your fifth and sixth questions convey pertinent inquiries, which are not only relevant, but true and hurtful. This taunt is now almost daily thrown into my face, and is by me acutely felt and deeply deplored; for I admit its justness, and the records of this consulate-general fully attest my persistent efforts to avert its force. The "commercial traveler," as a business man in the mercantile community in the United States, is a potent factor in the sale of goods, and always an expected and welcome visitor to the tradesmen of the interior. The goods which he sells there by sample can be satisfactorily delivered in a few days at any point, however remote. Here, however, with such great intervening distance, requiring necessarily such a consumption of time in the transportation of the goods as may endanger the expected profits, because of change in money values, such management of mercantile business is impracticable and can not, in the very nature of things, give satisfaction. Other nations until quite recently pursued the same fatal course and have only changed their basis of operations within a very few years. The merchants and manufacturers of the United States are duly apprised of this grave error and will speedily conform to the required change. It is their duty, and success demands it. Ordinary sagacity and practical, business common sense will soon dispense with the commercial traveler, with his "catalogue" and bundle of samples, and compel the establishment in your different cities of large warehouses, in which "important stocks" will be carried, under the control of "educated staffs of clerks" acquainted with custom-house regulations and the Portuguese language. These houses will be fit representatives of American thrift, enterprise, and push, and will be sustained by American capital, with ample American banking facilities to meet all their necessities and participate, in all legitimate methods, to their full share in the bright future which, we trust, is now dawning on this promising Republic. This course is wise and essential to favorable results, but, if not carried out and failure thereby follows, who is hurt? Certainly not our foreign competitor. Then why complain in advance by befogging the way?

The consul-general does think that Brazil, in adopting a republican form of government, has gotten on the right track and is on the up grade. He is well aware, too, that in some respects it is a "new country" and in great part unimproved, yet growing and susceptible of wonderful development, and that, in view of the close commercial relations between the Republics, the United States of America will gladly furnish the United States of Brazil with such facilities as may be necessary for rapid and continued development, equally as readily and equally as cheaply as has been obtainable from other countries. A common interest—in governmental relationship perhaps a common destiny—clearly indicates such normal results.

In reply to the latter part of this interrogatory, let me assure you that I am proud to inform you that the United States is not in the habit, nor in the condition, of relying on Europe for the payment of her debts. Her bonds command heavy premiums and are eagerly sought for investment by European capitalists. Said bonds, on presentation at the Treasury, at the option of the holder, before maturity, are cashed at a heavy advance on face value. She is dependent in her finances on no outside government, and I resent for her such imputation. The merchants of my country are very exacting in demanding payments of all European buyers for the immense values in national products which they so reluctantly receive and grudgingly buy from them, and they have long since been accustomed to settle balances with Brazil with great facility and within themselves and without complaint.

But enough; these (save Nos. 5 and 6) are superficial and misleading inquiries, and do "but beat the bush" with a shrewd formulation of the many idle and nonsensical charges made for a purpose against my Government. Their intent is patent and of exotic growth, and is incubated in the cold and acrid soil of prejudice and bigotry and must miscarry.

You have not a word to say by way of commendation to my Government, which admits free of duty every leading commodity of Brazilian growth—coffee, hides, and sugar, the two latter in direct competition with similar articles of domestic production, and all free, save the cost of transportation, for the consumption of 63,000,000 people. From this office alone is annually exported to the United States all of $50,000,000 worth of coffee. Two-thirds of the coffee produced in Brazil and two-thirds of the rubber find a market there likewise, and all the hides and all the sugar can also be readily sold there at remunerative prices. Indeed, the sugar crops, with the impetus given its production under this treaty, will fully compensate this Government for the loss of revenue on articles admitted free.

In return therefor the United States Government is authorized to import several articles free of duty, many of which can not be profitably produced here and all of them of prime necessity to your people in the way of food, viz: Agricultural, mechanical, manufacturing, mining, and railroad utensils and machinery, which will result in cheaper and better food for the masses, and furnish all-important machines for the husbandman, the factory, the mine, and the railroad, all of which is indispensable to that development of which you say Brazil is in so much need and is only admitted to a market of 13,000,000 people.

If there be a sincere and honest desire to ascertain the relative merits of the treaty and properly instruct the masses as to the advantages and disadvantages thereof, the only sensible method is to make a plain statement of the values and classes of Brazilian products exported to the United States and, *per contra*, the value and class of all products exported from the latter country to Brazil. By this means you can ascertain the exact proportion of your citizens who will be benefited by the introduction, free of duty, of articles of prime necessity to the masses. Take the case of the milling interest in Rio de Janeiro alone; there are here two large flouring mills, and a considerable percentage of the wheat used comes from the United States. The names of the owners thereof, with the nationality of each, can be readily ascertained, and then when it becomes known that this outcry comes from some 100 persons, owners of the mills, against cheap flour, and that all of 450,000 human beings are in favor of cheaper food, you can readily see its practical operation. This case alone (and there are many others) shows the proportion in the single article of breadstuffs of 1 to 4,500 for and against this clause.

But, as you failed to indicate a desire for my views on the only practical bearings of this treaty, I will close with the assurance that, whenever invited to discuss this issue on facts and figures and custom-house records, I am at your service.

O. H. DOCKERY,
Consul-General.

STEAM-MADE EMBROIDERIES.

REPORT BY CONSUL BYERS, OF ST. GALL.

The recent invention at Arbon, Switzerland, of a new steam machine for making embroideries threatens to revolutionize the most important manufacturing interests of the Swiss Republic. Eastern Switzerland, with St. Gall as a center, for 100 years has been headquarters of the embroidery industry of the world.

In the year 1890 cotton embroideries to the value of 90,000,000 francs were shipped from St. Gall to various quarters of the earth. More than 40,000,000 francs' worth of these articles were sent to the United States. Should these large importations continue and the American tariff on embroideries remain at the present high rate of 60 per cent., the customs income alone would produce to the United States not less than 24,000,000 francs annually. The invention of a steam embroidery machine that may more than triple the present enormous production of hand machines and produce embroidery of even a better quality than the present is of sufficient importance to attract general attention. To the many thousands of Swiss people who earn their livelihood by hard labor at the hand machine the invention is one of vital interest. To the American who has his eyes open to the advantage of an invention that might, under a high tariff, possibly transfer an enormous industry from the Alps of Switzerland to New York city the situation is also of import. Manufacturers of eastern Switzerland are scarcely awake to the danger that seems to threaten them, though numbers are urging attention and combined action among themselves. Many, on the other hand, regard the new invention as of little consequence, and are not at all likely to interfere with the regular course of manufacturing by hand machines. It can, in the opinion of such—and many of them are experienced in the trade—never prove a serious competitor of cheap hand labor. Some careful investigation, however, has shown the possibilities of the new machine to be much greater than the friends of hand machines have been willing to concede. The invention is not to be lightly passed over. The French weavers 100 years ago at first ridiculed the invention of the Jacquard silk loom; seeing it a reality, their next act was to try and burn it up and mob the inventor, because it had revolutionized their industry in a night. There is a possibility that the Arbon steam machine may yet do for the embroidery industry what the Jacquard loom did for silk-weaving.

To understand the importance of the situation better, a brief glance at the past history of Swiss embroidery seems requisite. The present hand machine for embroidering was brought into use in 1827. Embroidering by hand alone had long been practiced, but it had only become an organized industry (home industry) early in the present century, and was confined, as now, almost wholly to the mountainous part of eastern Switzerland, that is, the cantons of Appenzell, Thurgau, and St. Gall, with St. Gall town as headquarters for shipping. The technical skill and readiness of hand of the Appenzell women were marvelous, and gradually the exquisite embroidery made by them became famous all over the world. Very many thousands of the people are engaged wholly in the skilled business. Girls were trained to it from early childhood. At that time all the beautiful work was done with the hand and in the people's homes; but the introduction of the hand machine rapidly changed the whole situation. To-day possibly not 5 per cent. of the embroideries are made exclusively by hand, and these only of special articles, fine and expensive. The hand machine was soon in the houses of half the peasants, and factories were founded, where many machines were collected and worked, but still by hand power only. The character of the work was then, and remains now, excellent; but the production was comparatively slow. The profits were usually large to the dealers; but the embroiderer barely made a good living, as it was always necessary for him to pay an assistant, known as the "threader," to help work his machine. This common old embroidering hand machine of 1827, with few improvements, is the one that is used to-day for the millions of fine embroideries that are sold to all quarters of the globe. There are perhaps 23,000 of them in use in eastern Switzerland, the number of needles averaging about 250 to the machine, and the number of stitches not exceeding 2,000 to the needle, daily. As embroiderers are paid on the stitch basis only, and sometimes as low as 4½ cents a hundred, they have very small earnings left after paying their threaders and other expenses. At the present time 50 cents, sometimes less, is a fair average of the daily earnings of a hard-working embroiderer, who must toil a long day with head, hands, and feet, working his machine.

A machine that would increase the number of stitches, and with less labor, has been the effort of inventors for nearly 50 years. Some 15 years ago a machine, called the "Schiffli," was invented and worked by steam. It produces, however, only a low class of goods of inferior quality. The product of this machine is usually known as "Schiffli goods" or "Schiffli embroideries." A little later other and greatly improved steam machines for fine embroidering were invented, but failed to enter into general use, flattering as were their prospects. For 17 years the well-known firm of Laurer Bros., at Arbon, on Lake Constance, have been striving to solve the problem of a rapid, perfect-acting steam embroidery machine that will increase the production, lessen the labor, and even improve the quality of the goods. The firm believe they have accomplished the desired object in their new Arbon machine. The principle upon which the invention proceeds seems to warrant belief in its great success. It is a power machine, but retains some of the ideas of the old hand machine. The short thread is still used, but with a vertical tension, by spring motion, in place of the horizontal moving carriage of the common machine. The needles are all put in place at once by means of a bar that is replaced as often as needed, saving valuable time. The pantograph that moves the frame holding the cloth is moved by steam and follows the pattern by means of an automatic attachment, which takes the place of the trained embroiderer. These are only the general features. A detailed description of the invention is not necessary here, nor would it be understood without drawings. What is claimed for this invention by its owners is that it will at least triple the product of the hand machine; that, hence, it can produce goods cheaper; that it can produce fully as good an article as is produced by the old method, and do it without so much of the wear and tear to the muscles of men and women. It has different improved attachments, such as "Bohrers," steam needle-threaders, automatic pantograph, etc., that aid in the rapid production. The hand machine seldom produces much above 2,000 stitches daily, on an average. The Arbon machines, when placed two together, with the single automatic pantograph acting for both, will, it is claimed, produce 12,000 to 15,000 stitches daily. It requires no rest and can be worked 24, instead of 12, hours. Two hand machines, worked by two men and two girls, may, it is claimed, be forced to produce 5,500 stitches daily; but even then, if the estimates are all correct, the Arbon machine would nearly triple the production, allowing nothing for the advantages of power over hand machines in many other directions. A drawback to the Arbon machine is the expense of its manufacture—5,000 to 7,000 francs—as compared with 2,000 francs and less for the best pattern hand machine. Its tremendous production, too, would indicate its suitableness only for articles that are demanded in immense quantities. It is maintained, however, that this is not an objection, as the machine will produce almost everything in the embroidery line. Of course, no machine ever has, or likely ever will, take the place of hand labor entirely, and so it is with embroideries; certain articles will always require the touch and help of the hand.

The question naturally arises, has this machine an interest for Americans? The answer is, yes; for wherever it may be put in use, here in the Alps or in New York city, there is a possibility of its revolutionizing the whole embroidery business. Could Americans, under any circumstances, with such a machine, secure the bulk of this profitable and historic industry? That depends on the tariff. Were the duty on the embroidery to remain excessively high for the next 10 years, yes. Labor is very cheap in eastern Switzerland—as stated, embroiderers scarcely earn 50 cents a day—but the enormously rapid production of such a machine, sustained by a tremendously high tariff for a very long time, might, perhaps, in the end beat cheap labor in spite of the more than double wages Americans would pay for attendants on the steam machines. Certain articles of embroidery are even now being made in America with some profit. Of course, there are only a few dozen machines there—some 200—as against nearly 30,000 machines abroad, and only a handful of people engaged in embroidering, as against 100,000 in Switzerland alone. But all things must have a beginning, and, though the American people are paying great prices for their embroideries just now, in order that our handful of beginners may get a start, still it is to be hoped that by the introduction of some great machine like this some day the bread cast on the waters will, in a measure, be returned to us. Without some such happening embroidering in the United States, except as to a few specialties, will very likely always be an uphill work. To succeed with embroidering in the United States, there must be a machine or a method that is able to take the place of 100 years of experience, skill, patience, and training that amounts almost to genius, and that can overcome a low scale of wages, such as has never yet been experienced in the United States.

S. H. M. BYERS,
Consul.

UNITED STATES CONSULATE,
St. Gall, June 29, 1891.

MEXICAN EXPORTS.

REPORT BY MINISTER RYAN.

The official tables which I have the honor to herewith transmit, taken from the Diario Oficial of April 10, 1891, show that the total value of the exports of merchandise and precious metals during the first half of the fiscal year 1890–'91 (July to December) from Mexico was $32,216,505.57. It will be seen that of this sum the precious metals amount to $22,048,653.28 and the merchandise to $10,167,852.29. Of the latter the United States took $8,154,126.20, or about 80 per cent. of the total export of merchandise. Of the total exports of precious metals ($22,048,653.28) the shipments to the United States were $13,248,342.69. The net increase of exports of precious metals over the corresponding period of the preceding year was $1,079,638. It will be observed that the increase of silver-ore exports exceeds 25 per cent.

Table showing the total exportation through each custom-house during the first half of the fiscal year 1890–'91.

Custom-houses.	Precious metals.	Merchandise.		Total value of exports.
		Quantity.	Value.	
		Kilogrammes.		
Acapulco	$27,563.50	872,284	$66,079.90	$93,643.40
Altata	17,270.36	662,621	18,662.00	35,932.36
Ascensión	57,820.00	2,800	14,906.00	72,726.00
Camargo	1,950.00	61,836	13,149.83	15,099.83
Campeche	3,300.00	1,962,755	78,969.00	82,269.00
Ciudad Juárez	6,573,601.09	894,953	1,017,313.07	7,590,914.16
Ciudad Porfirio Diaz	768,626.86	24,316,783	630,630.35	1,399,257.21
Coatzacoalcos	....	4,182,949	42,435.69	42,435.69
Frontera	230.00	2,851,505	72,686.88	72,916.88
Guaymas	323,548.41	60,041	8,335.50	331,883.91
Guerrero	....	700	812.00	812.00
Isla del Carmen	....	23,068,677	503,614.00	503,614.00
La Paz	364,841.36	963,122	32,283.00	397,124.36
Laredo de Tamaulipas	1,529,290.93	4,016,072	562,607.65	2,091,898.58
Manzanillo	36,200.00	702,931	23,763.80	59,963.80
Matamoros	143,205.65	1,213,499	67,895.10	211,100.75
Mazatlan	2,554,915.86	1,319,956	49,111.00	2,604,026.86
Mier	22,510.00	65,578	18,747.50	41,257.50
Nogales	243,474.27	610,210	38,845.00	282,319.27
Palominas	90,665.19	3,749	28,853.00	119,518.19
Progreso	223,680.20	26,741,303	3,352,223.84	3,575,904.04
Puerto Angel	500.00	7,255	2,653.45	3,153.45
Salina Cruz	24,700.00	44,339	7,204.04	31,904.04
San Blas	105,864.00	492,101	12,045.13	117,909.13
San José del Cabo	....	458,049	11,061.50	11,061.50
Santa Rosalía	....	1,275	260.00	260.00
Sásabe	3,150.00	2,797	712.00	3,862.00
Soconusco	33,800.00	114,229	63,042.84	96,842.84
Tampico	159,345.50	4,226,260	363,477.93	522,823.43
Tijuana	570.00	38,572	12,440.00	13,010.00
Todos Santos	65,577.78	70,088	1,695.00	67,272.78
Tonalá	21,628.15	5,544	2,996.05	24,624.20
Tuxpan	....	5,358,703	883,920.55	883,920.55
Veracruz	8,650,824.17	8,156,127	2,164,419.69	10,815,243.86
Total	22,048,653.28	113,549,763	10,167,852.29	32,216,505.57

Table showing the values of precious metals exported during the first half of the fiscal year 1890–'91, compared with the same period of 1889–'90.

Metals.	1890–'91.	1889–'90.	Increase.	Decrease.
Silver ore	$4,590,408.44	$3,326,316.63	$1,264,091.81	....
Foreign gold coin	4,844.00	11,625.00	....	$6,781.00
Mexican gold coin	62,329.00	47,857.00	14,472.00	....
Gold bullion	266,518.51	194,711.64	71,806.87	....
Foreign silver coin	11,227.20	83,279.20	....	72,052.00
Mexican silver coin	13,078,467.10	13,072,610.00	5,857.10	....
Silver for fluxing	682.00	60.00	722.00	....
Silver mixed with gold	319,300.27	213,603.56	105,596.71	....
Silver bullion	3,195,561.30	3,643,959.76	....	448,398.46
Silver sulphurets	519,315.46	374,892.46	144,423.00	....
Total	22,048,653.28	20,969,015.25	*1,606,969.46	527,231.46

* Average increase, $1,079,638.

Table showing the exports by articles for the first half of the fiscal years 1889–'90 and 1890–'91, with the increase or decrease in 1890–'91.

Articles.	1890–'91.	1889–'90.	Increase.	Decrease.
Brandies	$11,562.50	$5,935.00	$5,627.50	
Jewels and precious stones	5,313.00	1,840.00	3,473.00	
Live animals	162,928.00	231,541.50		$68,913.50
Indigo	19,378.88	60,196.00		40,817.12
Sugar	455.00	39,225.80		38,770.80
Empty barrels, casks, etc	9,834.50	9,955.00		120.50
Coffee	1,019,066.09	1,317,888.49		298,822.40
Hard coal	85,124.35	91,091.00		5,966.65
Rubber	28,142.65	45,963.15		17,820.50
Horsehair	21,130.51	22,670.94		1,540.43
Copper	1,650.00	156,137.00		154,487.00
Pearl, mother-of-pearl, etc	18,735.00	24,122.74		5,387.74
Hides, wet	10,500.00	8,284.00	2,216.00	
Chewing gum	533,781.99	326,434.99	207,347.00	
Chile peppers	12,678.85	16,860.00		4,181.15
Baggage	8,473.25	6,447.00	2,026.25	
Beans	97,472.49	109,186.54		11,214.05
Fruit	59,566.12	42,457.25	17,108.87	
Chick-peas, etc	31,395.25	84,588.49		53,193.24
Guano		8,025.49		8,025.49
Hemp	3,314,514.88	4,084,480.30		769,965.42
Ixtle	518,338.49	491,938.78	26,399.71	
Wool	30.00	21,894.05		21,864.05
Lemons	48,542.50	41,167.00	7,375.50	
Woods (various kinds)	882,842.15	645,335.90	237,506.25	
Manufactures	8,848.65	7,804.13	1,044.52	
Marble	46,760.00	79,425.46		32,665.46
Refunded merchandise	30,975.50	108,835.65		77,860.15
Bees' honey	26,889.52	37,240.13		10,350.60
Samples	4,659.00	21,031.50		16,372.51
Orchilla	1,351.00	7,145.00		5,794.00
Fine pearls	11,000.00	54,000.00		43,000.00
Hides (various)	715,399.13	854,443.74		139,044.61
Unrefined sugar	4,820.00	7,212.50		2,392.50
Lead	377,344.41	272,439.72	104,904.69	
Jalap (Jalapa purging herb)	47,238.80	257 92	46,980.88	
Grass root	218,186.04	213,539.14	4,646.90	
Empty sacks	3,063.00	10,710.00		7,647.00
Salt	375.00	5,185.00		4,810.00
Cotton seed	200.00	7,871.40		7,671.40
Tobacco	446,655.59	379,365.37	67,290.22	
Wheat	570.00	12,680.00		12,110.00
Vanilla	345,306.00	583,409.46		238,102.46
Valuable papers	910,528.50	116.90	910,411.60	
Sarsaparilla	11,604.75	8,392.52	3,212.23	
Sundry articles unspecified, whose exportation does not exceed $5,000. in the 6 months	54,620.95	78,837.81		24,216.86
Total	10,167,852.29	10,643,909.27	1,647,751.12	2,123,628.10

RÉSUMÉ.

Increase in precious metals	$1,079,638.03
Decrease in merchandise	476,056.98
Net excess of exports	603,581.05

mentioned are not disposed to advance more money or to increase their responsibilities by guaranties.

The net earnings of the company during the first 8 months of 1890 were only £33,880, against £113,039 for the same period of 1889. September produced only £2,000, and the remaining 3 months of the year were expected to show worse results. Moreover, debentures to the amount of £90,000 became due on December 31, 1890, of which only a small portion was renewable. It was hoped that the profits of the business would have supplied current wants, but the revolution here and the stagnation of business since make it impossible for the company to raise any more money. Under these circumstances, the directors have recommended liquidation and the winding up of the concern. The losses to stockholders will be great. The creditors will probably take over the properties and assets.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, February 18, 1891.

LEADS IN AUSTRALIA.

REPORT BY CONSUL-GENERAL WALLACE, OF MELBOURNE.

Inquiries in regard to pure white lead (dry and ground in oil), red lead and litharge (dry), lead pipe, and sheet lead have been received, viz:

(1) The quantity of each of the above articles annually imported; (2) the countries from which they are imported; (3) their import value per pound or gallon, freight and duty paid; (4) the import duty on each article; (5) the rate of freight from the exporting countries; (6) the packages (wood or iron) they are imported in; (7) the ports of entry; (8) if sails are made direct to dealers, or by special agents; (9) the usual terms of sale, time given, etc.; (10) the financial responsibility of merchants generally.

These questions require considerable research and inquiry, and to some I can make no reply, but submit the following:

Nos. 1, 2, and 4 are answered in the accompanying tables of imports into this colony, giving countries whence imported, rate of duty, quantity, and invoice value, compiled from the governmental statistics for 1889, the latest published.

For the rates of duty in other colonies, I refer to No. 118 of CONSULAR REPORTS for July, 1890. You will observe no discrimination is made between colors and white lead; but I am informed by the authorities that, generally speaking, "mixed for use" is colors and "ground in oil" is white lead. Dry white and red leads are also imported, but are not tabulated separately.

Nos. 3 and 6 are answered in the wholesale quotations of this (Melbourne) market of April 6 last.

In regard to No. 5, I am informed that the bulk of importations is by charter.

As to No. 7, the ports of entry for the different colonies are as follows: New Zealand, Auckland and Dunedin; Tasmania, Hobart and Launceston; Queensland, Brisbane and Rockhampton; New South Wales, Sydney and Newcastle; Victoria, Melbourne; South Australia, Adelaide; West Australia, Freemantle and Albany.

As to No. 8, sales are made direct and by consignment. Quite a number of American houses in other lines have sent out special agents of their own, who, I understand, have been quite successful.

To No. 9 I could secure no very definite answer, but I am under the impression that many of the houses here are identified, more or less, with firms in England, yet not so much so as to destroy their independence of action. Upon equal terms England would secure the trade. In nearly all of the ports mentioned Americans are established, handling American products. I do not think the financial responsibility of merchants is better anywhere than in Australia.

I understand that there are parties interested in a process, alleged to have been discovered by a Frenchman here, whereby a superior quality of white lead is made direct from the ore. It has been sufficiently developed to secure attention here, and a strong company has been organized to operate it.

I have their promise that at an early date they will give me a full technical description of the process, which, when received, will be communicated to the Department.

Table showing the imports into Victoria for the year ended December 31, 1889.

Articles and whence imported.	Quantity.	Invoice value.	Rate of duty.
Lead:			
Ore—			
New South Wales....tons...	1	£10	Free.
South Australia....do.....	12	114	Do.
Tasmania....do.....	1	10	Do.
Pig—			
United Kingdom....do.....	1,400	18,609	Do.
New South Wales....do.....	7	102	Do.
Queensland....	....	3	Do.
South Australia....tons...	880	11,317	Do.
Tasmania....do.....	3	37	Do.
Pipe—			
United Kingdom....cwts...	29	22	2s. 6d. per cwt.
South Australia....do.....	8	12	Do.
Hamburg....do.....	28	28	Do.
Sheet—			
United Kingdom....do.....	13,600	9,969	Do.
New South Wales....do.....	30	25	Do.
South Australia....do.....	40	53	Do.
Linseed oil:			
In pint packages (to July 31)—			
United Kingdom....dozens...	3	1	1s. per dozen.
New York....do.....	20	5	Do.
In bulk—			
United Kingdom....gallons...	436,399	50,145	6d. per gallon.
New South Wales....do.....	478	71	Do.
South Australia....do.....	1,867	238	Do.
Tasmania....do.....	15	3	Do.
Bremen....do.....	19	5	Do.
Calcutta....do.....	1,900	175	Do.

Table showing the imports into Victoria for the year ending December 31 1889—Continued.

Articles and whence imported.	Quantity.	Invoice value.	Rate of duty.
Castor oil:			
In pint packages (to July 31)—			
United Kingdom..........dozens...	4,407	£1,596	1*s*. per dozen.
New South Wales..........do......	32	11	Do.
Hamburg..........do......	17	6	Do.
In quart to gallon packages (United Kingdom)..........do......	1	4	12*s*. per dozen.
In pint and over half-pint packages (after July 31)—			
United Kingdom..........do......	1,439	495	2*s*. per dozen.
New South Wales..........do......	2	2	Do.
In bulk—			
United Kingdom..........gallons...	1,700	319	6*d*. per gallon.
New South Wales..........do......	24,188	3,854	Do.
New Zealand..........do......	4,760	790	Do.
Queensland..........do......	1,691	274	Do.
South Australia..........do......	5,942	987	Do.
Calcutta..........do......	220,669	20,518	Do.
Hamburg..........do......	57	[illegible]	Do.
Venice..........do......	80	14	Do.
Paints and colors:			
Mixed for use—			
United Kingdom..........cwts...	4,414	8,004	£4 per ton.
New South Wales..........do......	104	231	Do.
New Zealand..........do......	20	45	Do.
South Australia..........do......	3	4	Do.
Tasmania..........do......	6	13	Do.
Boston..........	....	2	Do.
Bremen..........cwts...	6	10	Do.
New York..........do......	39	179	Do.
Ground in oil—			
United Kingdom..........do......	62,847	78,155	£2 per ton.
New South Wales..........do......	173	276	Do.
South Australia..........do......	40	60	Do.
Antwerp..........do......	19	22	Do.
Boston..........do......	3	8	Do.
Hamburg..........	....	1	Do.
New York..........cwts...	13	42	Do.

Table giving the Melbourne quotations on April 6, 1891 (duty paid).

Articles.	Prices.			Articles.	Prices.		
Sheet lead:	£	*s*.	*d*.		£	*s*.	*d*.
English..........per ton...	19	10	0	Castor oil (17-gallon cases)...per gallon...	0	2	11
Colonial..........do......	18	0	0	Linseed oil:			
Paints (white and red lead):				Boiled—			
Champions—				In drums..........do......	0	3	7
White (in 1-cwt. kegs)...per cwt...	0	30	0	In wood..........do......	0	3	5
Red (in 28-pound kegs).....do......	0	25	0	Raw—			
Brandrams—				In drums..........do......	0	3	4
White (in 1-cwt. kegs)......do......	0	25	10	In wood..........do......	0	3	1
Red (in 28-pound kegs).....do......	0	25	0				

GEO. H. WALLACE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, April 14, 1891.

LAND TITLES IN THE STATE OF PARA.

TRANSMITTED BY CONSUL KERBEY.

[From A Republica of November 5, 1890.—Translation.]

Before the passage of law No. 601 of September 18, 1850, land-property titles were based principally on first occupancy. Very rare were the persons who, acknowledging the State right of eminent domain to unoccupied lands, petitioned for sections of public lands as homesteads. The titles of these occupied homesteads, in most cases, remained without legal validation, because of the one lacking condition of survey; but it was not declared an offense against the law, because the tracts of land were immense and the cultivators very few.

Any individual would go to a place that suited him, make a clearing, put up a house of the timber of the forest, together with the climbing vines which are to be found in abundance, cover it with the leaves of the ubussú palm or the boughs of the pindoba, weave doors of the same foliage for it, set out four banana plants, and he was considered the proprietor of the soil.

In 1850 came the law No. 601, which in vain strove to do away with this half-savage method of acquiring property. In its second article it established the penalty of 6 months' imprisonment, a fine of 100 milreis, with ejection and loss of improvements, for "squatting" on public lands.

The law above mentioned considered as valid titles by possession anterior to 1850, and ordered that they should be legalized in due form, and also that grants that had not been forfeited should be revalidated. Once more it happened that the definition and declaration of the offense was a dead letter. In the Amazon region, where the vast territory is hardly touched by the hand of man, such threats have no value at all. Forty years have passed since that law was sanctioned, and not a quarter part of the land-property titles in this State are legalized.

This is not, however, the greatest of the evils. The prohibition established by the law was good, because the custom of taking public lands continued, and still continues, to throw land titles into a perfect chaos. The evil to public administration from this source is evident. At least a third of the cultivators of our soil suppose themselves to be possessors, while they are nothing more than illegal holders of the property of the State, liable to ejection and loss of improvements, and, besides, a penalty of 6 months' imprisonment and a fine of 100 milreis.

The poor farmer who is ignorant of the law and its rigorous stipulations would easily purchase his undisturbed quiet by buying the land on which he is settled if there had always been, on the part of the Government, a desire to govern well by making such purchases easy.

Since 1860 the sale of land on credit has been permitted by the law of estimates, and in 1865 the authority to grant such sales was given to the president of the province.

On the 3d of June, 1874, this service was wisely regulated; but the regulation was badly comprehended and worse complied with by the governors. Lands were purchased, and the survey was paid for, cash down; but the surveyors sent to survey the lots were not satisfied with the salary stipulated by the law and arbitrarily exacted enormous amounts for the surveys. The survey was more costly than the land. Hence it came about that the people of the interior, the majority of whom are poor, were constrained to prefer the illegal manner of obtaining land by first occupancy rather than by purchasing it from the State for a small price.

The pernicious influences of this lack of protection for the agricultural classes have made themselves felt on a large scale. The richer people of the interior have often bought up large tracts of land, and, with a provisional title in hand, by means of the survey, from the small farmers they have wrenched the homesteads which they have improved with patient toil for long years. Many families, expelled in such a way, have been rendered homeless.

No attempt has been made to remedy the evils brought upon the people of Para by the ignoring of the obligations resting upon those who govern. The presidents used to take an oath to nurture the welfare of the province for the moral and secular good of the people, but, as a rule, this promise was false.

The farmers, who form the class of society who undertake to furnish the food for the other classes by hard toil, were despoiled of their land by a simple process of survey, because the president of the province had ordered the sale to a potentate of some leagues of land, in which were included many cabins of small farmers, who were ejected with loss of their improvements. Then the law, which ought to have been executed at the time of the irregular acquisition, has appeared in all its strength to throw the poor man out of his little homestead, which he had cleared up and made useful.

These executions of the law have been made without any sort of legal process, because Captain So-and-So, an influential politician of the place, had bought the land from the Government and the latter needed the Captain So-and-So for the elections. Even in these vital interests of the people a bastard politics has made itself felt. During these last 10 years it is that that degrading mode of procedure has been at its height. However, it was not the General Government that was to blame, for it wearied itself in vain giving orders that in the sale preference should be given to the person actually settled on the land; the blame belonged to the provincial government for combining its selfish interests with the local nabobs.

[From A Republica of November 6, 1890.—Translation.]

Now we have reached a new era. The monarchy easily yielded its place to the Republic. The righteous aspirations of the people for a new régime should be satisfied.

We, who are inviting the foreigner to enjoy with us the good things spread around by the Creator in this blessed region, need, more than anything else, to banish the treachery which exists in the matter of land titles. If we put on our statute books rules to give to foreigners secure titles to the soil without first giving it to natives who have already settled on the land, we shall commit the most flagrant injustice.

If the constitutional assembly, inspired by the true interests of the country, restores to the respective States the right of property in their own territory, it will be easy to arrive at this *desideratum*.

A registry should be established for lands already in possession, dividing them into the following classes:

(1) Lands granted prior to 1854 whose titles have been revalidated.

(2) Lands granted prior to the above date whose titles need no revalidation, because of having been surveyed by order of the first concessionaries, or of the land commissioners, immediately after the respective grants were made.

(3) Lands granted prior to the said date whose titles are not yet revalidated, notwithstanding the fact that the conditions of cultivation and residence have been complied with.

(4) Lands whose possession is already legally valid.

(5) Lands which passed into the hands of second owners by legitimate title before the regulation of 1854, and which are not in need of revalidation for legal purposes.

(6) Lands sold by the Government and not yet surveyed.

(7) Lands acquired since 1854 by first occupancy.

In these last two classes it should be declared whether all payments have been made or not.

By this register it will be easy to ascertain:

(1) What property titles are legitimate.

(2) What land-property titles are in need of revalidation.

(3) What land-property titles can not be made valid, except by purchase from the State, by reason of their having been acquired by first occupancy after the express prohibition of this manner of taking possession of the land.

The amount of land in this latter condition is immense, and, as it is solely from this fact that arises the irregularity and confusion in land-property titles, I shall further speak of what to me seems to be the acceptable means for regulating the matter.

[From A Republica of November 7, 1890.—Translation.]

Taking the public registry of lands which are legally or illegally held in the whole State, it will be easy to discriminate them from each other, provided such registers are complete.

The statistics of the lands illegally held being tabulated by districts, these should be surveyed, the State being divided into regions. As these lands are being surveyed, the respective surveyors should remit to the collectors of the districts the certificate of survey of the respective lots, specifying the number of square fathoms (1 braça=2.2 metres) of the area surveyed to be paid for. In the price of the land should be included that of the survey, at 20 reis per linear fathom on all sides of the lot, the possessor being obliged to pay this amount and to furnish the stakes. The Government, authorized by the legislature, should mark the time for completing the payment, provided that the annual installment should not exceed 50 milreis.

The minimum price per square fathom, as is well known, is half a real; therefore, 50 milreis is the price corresponding to 100,000 square fathoms (120 acres). In view of this fact, each holder of lands who has registered an area 1,000 fathoms square* will have to pay the amount of 130 milreis—50 milreis for the land and 80 milreis for the survey.

The amount being paid in annual installments becomes very easy. The collector, having received the note of survey, will make the entry with the designation of the annual installments, as if it were a property tax. In the last year, with the receipt which shows that accounts are square with the treasury, the holder of the land will petition for the title in fee simple, which shall be given to him gratis. This title may serve to proceed to the registry, according to the Torrens law, if the owner so desires. The surveyor should be salaried by the Government to make the measurement in each region.

I believe that in less than 10 years, by this method, the State of Para could have her land titles legalized. But it is necessary that rigor should be used in order to have done with the abuse of any person whatever taking possession of State lands without purchasing them. To this end it will be necessary to facilitate the sales, not placing obstacles in the way of the development of agriculture and the grazing industry with the customary "red tape."

The stability of the population, by the guaranty of the title of the land and the facility of the means of subsistence, will bring marriages and with these the increase of a moralized and happy population. If the people become impressed with the necessity of becoming fixed on the land which belongs to them, we shall in a short time have true progress. We possess plants of great value, which it is necessary to cultivate in order not to lose them. They are so valuable that a small proprietor, by planting them according to his own ability, will in a few years obtain a competence, which will never come to the nomad who runs after the shadow, leaving the reality. The greater part of the population in some of our districts live in a continual flux and reflux, in search of productions which nature still offers spontaneously; and for this reason Para, whose fertility knows no equal, has not the prosperity of Pernambuco, which lives from agriculture.

The rubber-gatherer is badly fed, because he continually eats the dried meat and salt fish with mandioca meal which his employer brings to him from the city. The population is decimated in the rubber swamps, where they are also brutalized and demoralized. The rubber trees generally grow on the low lands; therefore, fevers gather a heavy harvest from among the laborers. The means for avoiding this annual hecatomb in the rubber forests have not yet been studied. Not only many people go there to meet their death, but also their own financial ruin and that of others by the waste or loss of capital which they have promised to pay for with their labor. This is one of the sources of the disastrous crises through which our trade is constantly passing. It is necessary, therefore, to fix the population upon the soil; it is urgently necessary to foster the planting of the rubber tree in appropriate places on the margins of the great rivers and planting along with it the cacao tree. The eternal objection raised is that the rubber tree does not produce abundant milk until after a long time of growth. Although this be true, the idea should not be abandoned. It would be unspeakable selfishness to disinherit the future only because the present has no certainty of profit.

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*The author has made a mistake in supposing that an area of 100,000 square fathoms is 1,000 fathoms square, that is, a square each side of which measures 1,000 fathoms. The area of such a square would be 1,000,000 square fathoms, or ten times as much as could be bought for 50 milreis. The perimeter of a lot of 100,000 square fathoms, 200 wide and 500 long, would be 1,400 fathoms, and its survey would cost but 28 milreis, instead of 80 milreis, making the price of the 120 acres a total of 78 milreis, instead of 130 milreis.—J. O. K.

I also think proper that the process of legalizing possession and of the revalidation of grants should be simplified. If the lands come to belong to the States, the local magistracy should be competent to judge of the legalization; but if the lands belong to the Union, I think that only the federal judge ought to have this authority, and not the governor of the State. The contrary would be opposed to all the principles of federation. In any case, the surveyors of the respective regions should have authority to formulate the case which the respective judge has to decide.

It is quite expedient that others more versed than I in these matters should express their views upon this subject, in order to secure measures competent for the urgent demand of the present situation.

CONSELHEIRO PAES DE ANDRADE.

SHEEP AND WOOL IN AUSTRALASIA.

REPORT BY CONSUL-GENERAL WALLACE, OF MELBOURNE.

There are here seven colonies, some of very recent independent political organization, disassociated and antagonistic (in a statistical sense), so that there is no uniform method of securing data. The official census of 1881 is the latest official publication; since then the annual statistics are the estimates of the stock inspectors. By these estimates, the number of sheep in Australasia December 31, 1890, was about 109,167,625; but it is presumed in making them that there has been little or no change in the number in the colonies of New Zealand, Tasmania, Victoria, South Australia, or West Australia, the increase having been in Queensland and New South Wales, and I inclose progress reports from the stock inspectors of the two latter colonies. The figures are as follows:

Colony.	Number.	Colony.	Number.
Victoria	10,882,231	Tasmania	1,551,429
New South Wales	55,477,404	New Zealand	15,903,263
Queensland	17,000,000	Total	109,167,625
South Australia	6,386,617		
West Australia	2,366,681		

The two firms of wool-dealers, Messrs. Goldsbrough, Mort & Co. and Messrs. Dalgety & Co., make a specialty of wool and sheep statistics. They show much enterprise and care in their annual reports, and I believe their figures may be taken as approximately correct. They give the production of wool in bales, and bales vary greatly in weight; but the total weight of Australian wool sold in London is given by the authorities there as 418,702,000 pounds and the number of bales as 1,226,172, which gives an average of 342 pounds to the bale. Applying this average to the number of bales estimated by them as the clip for the season of 1890–'91, viz, 1,600,000, we have the enormous amount of 545,600,000 pounds as last year's wool production in Australia.

The official census of the British Empire was taken last month, and particular care was taken in these colonies to secure reliable figures as to the total number of sheep. These tables, however, will not be compiled for some time to come.

GEO. H. WALLACE,
Consul.

UNITED STATES CONSULATE,
Melbourne, June 10, 1891.

THE INSPECTOR OF QUEENSLAND TO CONSUL-GENERAL WALLACE.

[Inclosure 1 in Consul-General Wallace's report.]

OFFICE OF CHIEF INSPECTOR OF STOCK,
Brisbane, June 5, 1891.

SIR: Mr. E. Jewett has asked me to forward to you the number of sheep now in Queensland. I have much pleasure in complying with the request.

My returns are still incomplete, but, as they are, they give the number at a fraction short of 17,000,000, or an increase of 20 per cent. over last year. Since the date of the returns, January 1, there have been heavy lambings in some districts, so that 17,000,000 may be accepted as a fair estimate. The number of cattle exceeds 5,000,000.

I have, etc.,

P. P. GORDON,
Chief Inspector of Stock.

PROGRESS STOCK RETURNS FOR NEW SOUTH WALES ON DECEMBER 31, 1890.

[Inclosure 2 in Consul-General Wallace's report.]

These returns are compiled principally from returns received, and partly from the inspector's estimates of the returns of stock for 1890, and show the increase of stock as compared with the previous year.

Table showing stock returns.

Description.	Horses.	Cattle.	Sheep.
	Number.	*Number.*	*Number.*
Stock returned	430,277	1,845,306	54,391,146
Estimate of stock not yet returned	14,226	47,657	1,086,258
Total on January 1, 1891	444,503	1,892,963	55,477,404
Total as per annual report on January 1, 1890	430,777	1,741,592	50,106,768
Increase	13,726	151,371	5,370,636

AUSTRALIAN SHEEP AND WOOL STATISTICS.

[Inclosure 3 in Consul-General Wallace's report.—From Dalgety & Co.'s Review for 1890-'91.]

Table showing the Australasian wool exports from 1881-'82 to 1889-'90.

Colony.	1881-'82.	1882-'83.	1883-'84.	1884-'85.	1885-'86.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Victoria	338,861	313,318	331,552	329,911	315,650
New South Wales	239,773	264,721	317,804	293,296	346,145
Queensland	53,128	53,637	74,849	73,092	72,717
South Australia	149,485	150,118	120,870	152,387	130,924
West Australia	10,921	10,973	12,634	14,548	14,343
Tasmania	20,477	20,718	18,899	17,268	16,435
New Zealand	194,056	215,472	226,984	232,100	244,617
Total	1,006,701	1,028,962	1,103,592	1,112,602	1,140,831
Increase over previous year	....	22,261	74,630	9,010	28,229

Colony.	1886-'87.	1887-'88.	1888-'89.	1889-'90.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria	331,998	347,869	352,982	425,928
New South Wales	332,961	397,271	453,601	472,734
Queensland	65,305	88,808	106,222	104,309
South Australia	148,120	150,027	133,139	148,417
West Australia	16,373	16,438	21,881	32,999
Tasmania	17,621	16,657	19,536	19,251
New Zealand	271,895	256,419	267,289	270,950
Total	1,184,273	1,273,489	1,354,650	1,474,588
Increase over previous year	43,442	89,216	81,161	119,938

The total increase between 1881-'82 and 1889-'90 has been 467,887 bales, or an average for the 8 years of 58,486 bales.

At the end of February it usually becomes possible to form some estimate of the probable total production of wool for the current season as compared with the previous one. The past season has, however, been an exception to a good many rules, and especially so in this respect. We have therefore delayed issuing our annual review until something definite could be known regarding the probable production for the past season. The unfortunate labor disputes of last year delayed shearing in many districts, and also retarded the arrival of the clip at the seaboard. The consequence has been that even as late as the end of November a heavy decrease in the exports to date of 123,000 bales was shown, which gave rise to a very general—though ill-founded—impression that there would be hardly any final increase. In the face, however, of very heavy shipments during the succeeding 5 months, it has become evident that there will be an important increase.

The final export figures for the wool season 1890-'91 will not, of course, be made up until after the end of June.

The following table, however, shows the exports from the seven Australasian colonies from July 1 last to the end of last month, compared with those for the corresponding period of 1889–'90:

Table showing the Australasian wool exports in 1889–'90 and 1890–'91 (July 1 to April 30).

Colony.	1889–'90.	1890–'91.	Increase.	Decrease.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria	418,918	408,193	....	10,725
New South Wales	461,208	546,912	85,704	....
Queensland	93,381	112,801	19,420	....
South Australia	147,614	153,552	5,938	....
West Australia	23,999	29,460	5,461	....
Tasmania	19,251	20,155	904	....
New Zealand	264,161	293,556	29,395	....
Total	1,428,532	1,564,629	136,097	....

Table showing the number of sheep in Australasia from 1879 to 1889.

Colony.	1879.	1880.	1881.	1882.	1883.	1884.
Victoria	8,651,775	10,360,285	10,267,265	10,174,246	10,739,021	10,637,412
New South Wales	30,062,910	35,398,121	36,591,946	36,114,814	37,915,510	31,660,321
Queensland	6,083,034	6,935,967	8,292,883	12,043,893	11,507,475	9,308,911
South Australia	6,140,396	6,463,897	6,810,856	6,388,366	6,677,067	6,696,406
West Australia	1,109,860	1,231,717	1,267,912	1,259,797	1,315,155	1,547,061
Total Australia	52,047,975	60,389,987	63,230,862	65,981,116	68,154,228	59,850,111
Tasmania	1,835,970	1,783,611	1,847,479	1,845,455	1,831,069	1,720,027
New Zealand*	12,985,085	12,985,085	12,985,085	13,384,075	14,056,266	16,677,445
Total Australasia	66,869,030	75,158,683	78,063,426	81,210,646	84,041,563	78,247,583
Increase over previous year	....	8,289,653	2,904,743	3,147,220	2,830,917	†5,793,980

Colony.	1885.	1886.	1887.	1888.	1889.
Victoria	10,681,637	10,700,403	10,623,985	10,818,575	10,882,231
New South Wales	37,820,906	39,169,304	46,965,152	46,503,469	50,106,768
Queensland	8,994,322	9,690,445	12,926,158	13,444,005	14,470,095
South Australia	6,696,406	6,696,406	7,254,000	7,150,000	6,386,617
West Australia	1,702,719	1,809,071	1,909,940	2,112,393	2,366,681
Total Australia	65,896,190	68,065,629	79,679,235	80,028,442	84,212,392
Tasmania	1,648,627	1,609,046	1,547,242	1,430,065	1,551,429
New Zealand*	15,174,263	15,155,626	15,042,198	15,423,328	15,503,263
Total Australasia	82,719,080	84,830,301	96,268,675	96,881,835	101,267,084
Increase over previous year	4,471,497	2,111,221	11,438,374	613,160	4,386,249

*** The New Zealand figures are up to 31st of May of each following year. No New Zealand figures for 1880 and 1881 being available, those for 1879 are repeated. No South Australian figures for 1885 and 1886 being available, those for 1884 are repeated.**

† Decrease.

AUSTRALASIAN AND RIVER PLATE WOOL STATISTICS.

[Inclosure 4 in Consul-General Wallace's report.—From Goldsbrough, Mort & Co.'s Review.]

Table showing the importations of colonial and foreign wool into the United Kingdom from 1877 to 1890.

Colony.	1877.	1878.	1879.	1880.	1881.
Victoria	334,397	302,508	309,614	306,817	355,524
New South Wales	148,322	137,540	154,409	193,363	206,226
Queensland	35,289	38,101	34,502	31,414	39,362
South Australia	107,470	104,808	111,190	109,917	112,827
West Australia	8,186	8,132	8,369	9,211	11,217
Tasmania	21,550	21,287	24,263	23,653	23,826
New Zealand	169,795	178,546	184,877	189,441	182,907
Total Australasian	825,009	790,922	827,224	863,816	931,889
Cape and Natal	169,291	160,263	176,145	193,528	194,133
Total colonial	994,300	951,185	1,003,369	1,057,344	1,126,022
Foreign	314,684	309,271	320,764	430,151	270,370
Total import	1,308,984	1,260,456	1,324,133	1,487,495	1,396,392

Colony.	1882.	1883.	1884.	1885.	1886.
Victoria	364,041	336,518	358,228	317,152	360,731
New South Wales	230,284	234,659	241,277	217,119	265,181
Queensland	54,093	60,858	99,974	104,361	84,065
South Australia	122,167	108,487	118,357	115,108	130,628
West Australia	11,615	11,208	13,204	14,427	16,862
Tasmania	23,429	24,038	24,415	21,681	21,463
New Zealand	194,102	215,024	228,900	237,875	260,912
Total Australasian	999,731	990,792	1,084,355	1,027,723	1,139,842
Cape and Natal	191,113	187,368	189,377	182,168	227,289
Total colonial	1,190,844	1,178,160	1,273,732	1,209,891	1,367,131
Foreign	362,527	310,300	385,871	359,826	452,051
Total import	1,553,371	1,488,460	1,659,603	1,569,717	1,819,182

Colony.	1887.	1888.	1889.	1890.
Victoria	345,396	380,330	372,057	365,172
New South Wales	245,290	321,154	306,091	274,448
Queensland	106,614	122,867	126,637	144,093
South Australia	106,403	115,849	111,236	98,249
West Australia	17,656	19,382	22,897	27,949
Tasmania	22,261	20,167	22,035	23,537
New Zealand	272,918	265,684	277,726	292,724
Total Australasian	1,116,538	1,245,433	1,238,679	1,226,172
Cape and Natal	234,728	288,910	287,334	283,494
Total colonial	1,351,266	1,534,343	1,526,013	1,509,666
Foreign	462,044	468,617	565,881	432,220
Total import	1,813,310	2,002,960	2,091,894	1,941,886

As the production of the River Plate is of some importance to the Australian clip, we append the figures for the past 13 years, and must add that it is estimated that the production for the present year will show an increase of some 30,000 bales.

Table showing the River Plate wool supplies from 1878 to 1890.

Year.	Total quantity.	Increase over previous year.	Decrease from previous year.
	Bales.	*Bales.*	*Bales.*
1878	286,000		7,000
1879	270,000		16,000
1880	289,000	19,000	
1881	282,000		7,000
1882	344,000	62,000	
1883	350,000	6,000	
1884	365,000	15,000	
1885	402,000	37,000	
1886	382,000		20,000
1887	342,000		40,000
1888	374,000	32,000	
1889	421,000	47,000	
1890	317,000		104,000

The following table, compiled by Messrs. Helmuth, Schwartze & Co., shows the proportions of greasy, washed, and scoured River Plate wool catalogued in London:

Description	1876.	1887.	1888.	1889.	1890.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Greasy	387,000	704,000	817,000	794,000	744,000
Fleece	238,000	45,000	33,000	25,000	34,000
Scoured	157,000	354,000	310,000	292,000	305,000
Total	782,000	1,103,000	1,160,000	1,111,000	1,083,000
Australian crossbred	49,000	62,000	56,000	54,000	51,000
New Zealand crossbred	53,000	168,000	172,000	182,000	185,000
Total crossbred*	102,000	230,000	228,000	236,000	236,000
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Percentage of fleece washed to total	30½	4	3	2¼	3
Percentage of crossbred to total	13	20	19½	21¼	21¾

* Excluding Swan River wools.

ITALIAN-AMERICAN EXPOSITION IN GENOA.

REPORT BY CONSUL FLETCHER.

For 2 years the municipal government and certain gentlemen of public spirit in Genoa have been diligently at work to overcome natural obstacles and to raise funds in order to celebrate the fourteenth centennial of the discovery of America by the great Genoese navigator Columbus.

The persistency and energy with which this work has been and is being carried out is worthy of all praise, and I now take pleasure in announcing to the Department that many festivities will be inaugurated here next year, each one an attraction in itself; and to crown all there will also be held in

Genoa, in 1892, an Italian-American exposition, to which the King has consented to give his patronage, and over which he allows the use of his name as its honorary president.

The whole programme for the festivities next year is an attractive one ; it includes certain features that have not been, and could not have been, given in former exhibitions. It is as follows :

(1) The new opera "Columbus." This is to be presented in the Carlo Felice Theater in this city, the third largest theater in Italy. The opera is now being composed by Maestro Baron Franchetti, for which he has received 200,000 lire. It will be continued during the exposition.

(2) Monuments to General Garibaldi and to the late Duke of Galliera, to be erected and unveiled next year. Garibaldi's name and fame are, of course, known all over the world, whilst that of the Duke of Galliera is limited to Italy and France. The Genoese hold in loving memory the nobleman who planned their grand new harbor and who gave the princely sum of 20,000,000 lire towards the construction of the new breakwater which to-day protects the port of Genoa.

(3) A Columbian museum in Columbus's old home. It is known by records in the municipality that Columbus's father purchased No. 37 Vico dritto di Ponticello, near the Porto San Andrea, in 1457. The conclusion is therefore drawn that within those paternal walls the great navigator spent his early youth. The house is to be restored to its primitive state and a Columbian museum placed therein. This alone will be a great attraction to Americans, both North and South.

(4) An archæological and fine arts museum. Genoa, rich in story and in antiquities, and nearly as old as the rock-ribbed mountains which surround her on three sides, never has had, strictly speaking, an archæological and fine arts museum. The people have long wished for such an institution. Their wishes will be gratified next year, through the thoughtfulness of the late Duchess of Galliera, who died in Paris the fore part of December, 1888. This noble lady, who caused to be erected those fine hospitals at a point in Genoa called Carignano at a cost of 7,500,000 lire, and who afterwards presented them to the city, donated also to the municipality that magnificent structure known to tourists as the Red Palace. The duchess's gifts did not end here. When her will, dated March 20, 1884, was opened and read, it was found that she had donated to the city of her birth her valuable collection of paintings, statuary, and many other articles of rare value. Some of the paintings are by Reubens and Van Dyke. In the same will the municipality fell heir to what is well known here as the White Palace, with the sole proviso that the main floor therein should be devoted to an exposition of fine arts. The grand Municipal Palace, where the relics relating to Columbus are deposited, and the aforesaid White Palace stand side by side and the Red Palace directly opposite both, separated only by Via Garibaldi. Next year will see all three united by a fine arch and gallery, and within their spacious walls will be exhibited not only the rare gifts presented by the late

duchess, but also precious relics of past centuries belonging to the Genoese nobility and to the municipality. Among the relics in the Municipal Palace is a bronze tablet bearing date of 290 B. C. On this tablet is an inscription which Mr. E. A. Le Mesurier, the author of an interesting little volume entitled "Genoa, Her History as Written in Her Buildings," translates as follows: "Two jurists, Q. M. Minutius and Q. F. Rufus, were sent from Rome to settle a dispute as to the boundaries between Genoa and her neighbors."

(5). Martime exposition. The plans for this exposition are taken from studies of the Liverpool and Edinburgh affairs of 1886, Havre in 1887, and of Cadiz and Glasgow in 1888. The space selected for its erection is larger than the space occupied by any one of the exhibitions above named. The Italian Chamber of Commerce in Paris and all the Italian consuls abroad have given assurance that the countries in which they are at present residing will take active part in the one to be held in Genoa in honor of "the great man who gave such strong impulse to maritime arts."

(6) Historical, geographical, and maritime congress. The simple fact that Senator the Marquis Doria, president of the geographical society and present mayor of Genoa, is earnestly engaged in the effort to bring together persons well known in the field of such studies is sufficient evidence that the congress will be well represented by noted scholars of all nationalities. A special committee is now in communication with members of the three congresses lately held at Antwerp, Brussels, and Paris, and many favorable replies have already been received from those learned men. His excellency the prefect of the province of Genoa, another fine student in all learned branches, is president of the provincial committee. The municipal government assumes the responsibility of meeting all obligations for carrying out the above programme.

(7) The Italian-American exposition. This enterprise is in the hands of gentlemen of great energy and perseverance. On account of the limited tract of land which can be devoted to the purpose, say from 60 to 80 acres, the exhibits must be limited to samples rather than to a general display of Italian-American products. That this tract of land was procured at all is the wonder of the Genoese to-day. It was a battle against natural and artificial obstructions by determined men; the latter won. A brief review of the case may not be out of place here. Baron Andrea Podesta, when mayor of Genoa, proposed the scheme, including a portion of the programme above given. Such gentlemen as ex-Minister of Industry Senator Stefano Castagnola, the Marquis Gioeomo Doria, Professor Virgilio, and the Hon. E. Cravero, with other public-spirited men, instantly grasped the situation and immediately argued the subject in public. The people (the Genoese are a cautious, conservative body) looked upon such an undertaking as wild and chimerical. "Where," they asked, "within this narrow space between mountains and sea, can a site be obtained on which to erect an exposition in honor of Genoa's noble son, whom we deridingly called 'mad boy' when

he was among us nearly 400 years ago? Have we not for centuries, been hewing down the rock-ribbed mountains which surround us on three sides, and have we not been robbing the Mediterranean of a portion of its bed on the remaining (front) side for many years? And still we are crowded for space to transact our every-day business." "The Government can be persuaded to come to our assistance," answered the gentlemen named above. "How?" "By granting us permission to raze the Fronti Bassi (ramparts), which extend from the mouth of the River Bisagno to and by the Porto Pita and beyond the Porto Romano." A petition was sent to Rome, the prayer of the men of will and grit was granted, and the King of Italy has accepted the title of honorary president of the exposition. The demolition of the ramparts immediately followed the royal permission, and the Fronti Bassi, which had been such a strong rear guard to Genoa for ages, are leveled to the ground or nearly so. The entire work will be completed in a few months, and on this reclaimed land the exposition buildings will be erected. To the deep grief of all who had the honor of his acquaintance, Professor Virgilio, active president of the enterprise, died of typhoid fever last March after a short illness, and since this sad event Hon. E. Cravero, vice president, has been doing the work of a dozen men in the interest of the exposition. Under date of May 23 last the chief officer in this consulate received a letter from Signor Cravero, extracts from which I beg here to quote:

> For the recurrence of the fourth centennial of the discovery of the New World a committee was chosen in this city to institute an Italian-American exposition, with the special object of giving the utmost possible development to the traffic between Italy and the two Americas, and thus increase the friendly and business relations between the two populations. All the efforts to such important results will be unsuccessful unless strongly supported by the American governments. To accomplish this object the said committee has decided to invite the above governments to take an official part in the projected exposition.
>
> The committee is in hope that the Republic of the United States will respond to the invitation and take part in the solemnization of one of the most memorable dates of modern story.

Accompanying the letter from which the above extracts are taken was a paper setting forth all particulars relating to the American section, from which I copy:

DISPOSITION OF THE AMERICAS.

(1) [A repetition of the first paragraph of Mr. Cravero's letter.]

(2) The projected exposition will be divided into two sections, Italian and American. It will include the soil, industrial, and artistic products, as provided for in special programme and within the limits of the special character of the exposition.

(3) The American governments who wish to take part in said exposition are requested to communicate their consent to the committee through their respective consuls.

(4) All American governments who agree to take part in this enterprise will be allowed, gratis, a portion of land on which to erect kiosks, pavilions, galleries, or other structures.

(5) It will be permitted to said governments, as far as concerns their own exhibits, to have paragraph 2 of the programme modified in any manner they choose, according to their special wants and requirements.

(6) They are quite free to select any plan they choose for the buildings they may erect within the limit of land allowed to each country.

(7) In case any of the American governments do not care to erect special buildings, they can occupy a space in certain pavilions measuring about 500 square metres, which will be erected for such purposes, each exhibitor or country to have a separate front and access.

(8) The cost of each space above mentioned will be about 15,000 lire, or, in round numbers, about $3,000.

(9) American exporters belonging to those states who do not care to provide special buildings nor to ask for the concession of special space according to paragraphs 4 and 7 will be allowed for their exhibits, upon application to the committee, space on the same conditions as those imposed on Italian exhibitors.

(10) Ten lire per square metre will be the tax for the space referred to in the preceding article.

(11) The committee further binds itself to obtain, formally, the temporary introduction of the products of American exhibitors free of Government and municipal duty.

(12) For the acceptance and selection of exhibits the American governments are at liberty to charge either the appointed commissioners, under the honorary presidency of the respective consuls, with the task or to provide in any other way they deem best.

(13) The present rules are applicable, also, to all European governments who have possessions in America and who desire to expose the products of their colonies.

(14) A jury will be chosen later on whose duty it will be to award prizes.

The contents of this dispatch would have been forwarded to the Department soon after the receipt of Mr. Cravero's letter dated May 23, 1891, but for the fact that I requested a drawing or an illustrated plan of the proposed exposition. Under date of June 16 my request was granted. The drawing was accompanied by another letter from the vice president, a translated copy of which I present as follows:

While I have the honor to remit to you a phototype copy of the general plan of the Italian-American exposition, I beg to add the following remarks and suggestions for the better understanding of the same and for your guidance:

(1) The space to be allowed to the American section, according to No. 4 of the disposition rules, is that included in each space between the several buildings, as well as those numbered 4, 9, 10, 11, 12, 18, 19, 24, 25, 27, and 28 in the drawing.

(2) The building No. 21, intended for the special divisions, as stated under No. 7 in the aforesaid rules, is a provisionary one, and subject to be modified according to circumstances and to the number of exhibitors.

(3) In order to facilitate the concourse of the governments willing to exhibit, and who would like to have special and separate pavilions, etc., the committee will prepare for them special drawings of galleries, kiosks, etc., and the cost of each. They will also undertake, after the plans are approved, to attend to the construction of said buildings.

Architects and builders here have given estimates of the cost of the proposed buildings, and are ready to enter into contract with the committee for the erection of the same and to give bonds that the entire work will be completed in 6 months from the date the contract is awarded them.

(8) Religious festivities. Last winter the Pope received a petition asking for the canonization of Columbus. The document contained nine hundred signatures. The names of archbishops and bishops in all parts of the world were on the list. The religious festivities to be held here are so clearly set forth by His Holiness Leo XIII that, instead of any comments of mine

on the subject, I attach hereto the Holy Father's letter to the archbishop of Genoa anent said celebration:

To Our Venerable Brother Salvator, Archbishop of Genoa:

Health and apostolic benediction. It is pleasing to us to learn from your letter of January 4 that you are laboring with diligent zeal to prepare, for the coming year, at Genoa, solemn secular festivities in celebration of the memorable voyage by which Christopher Columbus succeeded, four centuries ago, in discovering previously unknown regions on the other side of the globe.

Assuredly it is above all fitting that the honor which many are eager to render to this immortal genius in other places should be paid to him in the city in which he was born and to which he is a distinguished ornament and honor. We therefore highly approve of your design of establishing a council of chosen citizens to see to the carrying out of this intention, and we have read with great satisfaction the pastoral letter which you have, with that view, addressed to the clergy and laity of the diocese over which you preside. But your prudence and piety are principally manifested in your earnest anxiety that the celebration and the rejoicings should be of a character in keeping with Columbus's undertaking, his disposition, and the spirit by which he was animated; for it is attested by the most undoubted historical monuments that he entered on his arduous undertaking in order that the light of the gospel might be shed on those distant shores, and he became in some measure a minister of Christ, who said to his disciples, "Go throughout the world and preach the gospel to every creature." Hence injury would be done to the memory and the name of this excellent man by anyone who would only recognize the worldly aspect of his undertaking, and who would tender to Columbus merely the honors to be awarded to those who take no thought of the Catholic faith and in their great deeds seek to gain alone praise for ability and constancy.

The religious feeling and wisdom by which the people of your Liguria and the other Italians are distinguished being well known to us, we doubt not that it will be understood by many that you have provided in the best way for honoring the memory of such a remarkable man, and that they will spontaneously and heartily support and aid the council of worthy citizens established by you.

We sincerely trust that through this celebration, and through the effect of the example set by Columbus, the zeal of many will be stimulated, so that each shall do all that is in his power to extend the kingdom of Christ on earth.

Meanwhile, for the aforesaid design we implore the Divine assistance, and to this end we affectionately impart the apostolic benediction to you, venerable brother, and to the clergy and people confided to your care.

Given at St. Peter's, Rome, on the 10th of January, 1891, the thirteenth year of our pontificate.

LEO XIII,
Pope.

This concludes the general programme. I have considered it best to thus give in detail all the attractions set forth by the municipal authorities and by the exposition committee, that the Department may understand all points connected with the festivities to be held in Genoa in 1892 in loving memory of the discoverer of the New World.

The Genoese are extremely anxious that the United States should take official part in this celebration. American exhibitors will find no difficulty in transporting their wares to Genoa, for there is direct freight communication between New York and the port of Genoa. The Anchor line, Phelps Brothers, and the Florio Rubattino (Italian) steamers have frequent sailings between the ports just named.

The heat of summer should not deter exhibitors from coming here. It is never excessively hot on the Ligurian coast. For visitors who would prefer the quietness of the country to the hustle of the city comfortable accommodations can be procured within 20 minutes' ride from Genoa.

JAMES FLETCHER,
Consul.

UNITED STATES CONSULATE,
Genoa, June 30, 1891.

CLASSIFICATION OF PRODUCTS IN THE ITALIAN-AMERICAN EXHIBITION, GENOA, 1892.

[Inclosure in Consul Fletcher's report.]

FIRST DIVISION—MINING INDUSTRY.

Section 1.—Products of mines and quarries: Asphaltum and bitumen, alabaster, marbles, lithographic stones, coal, plumbago, iron, copper, lead, manganese, etc.

Section 2.—Raw and manufactured materials: Asbetos, iron, bronze, brass, bells, statues, etc.

SECOND DIVISION—CHEMICAL AND PHARMACEUTICAL INDUSTRIES.

Section 1.—Chemical products: Alcohol, acids, and, in general, all kinds of chemical and pharmaceutical products.

Section 2.—Drugs, albumen, glue, colors, tartaric and citric acids, perfumery, candles, soaps, etc.

THIRD DIVISION—ARTICLES OF FOOD AND PRODUCTS OF THE SOIL.

Section 1.—Dried fruits, preserved fruits and vegetables, fresh fruits, seeds, bulbs, plants, etc.

Section 2.—Breadstuffs and preparations thereof, cereals, fodder, flour, hominy, macaroni, spaghetti, etc.

Section 3.—Greases, butter, cheese, oils, lard, salt meats, salmon, tunny fish, eels, canned oysters, extracts, and pulp of tomatoes.

Section 4.—Sugar, honey, wax, chocolate, pastry, and confectionery.

FOURTH DIVISION—WINES, LIQUORS, AND BEVERAGES OF ALL KINDS.

Section 1.—Wines (white and red), sparkling wines, and vinegar.

Section 2.—Vermouth, bitters, sirups, cordials, essences, beer, mineral waters, aërated waters, etc.

FIFTH DIVISION—ARTS AND INDUSTRIES.

Section 1.—Hemp, linen, buckwheat, horsehair, silk (raw), cotton (raw).

Section 2.—Manufactures of silk, cotton, flax, wool, and velvet.

Section 3.—Mercery, trimmings, laces, embroideries, buttons, etc.

Section 4.—Haberdashery for men and women, silk, straw and felt hats, boots and shoes, clothes, shoe brushes, etc.

Section 5.—Leather, India rubber, waterproofs, cork (raw and manufactured).

Section 6.—Lithography, typography, chromolithography, and inks.

Section 7.—Furniture, carriages, artistic and ordinary furniture, carved furniture, bed-room and parlor suits, rugs and carpets, clocks (set in marble, alabaster, bronze, wood, etc.).

Section 8.—Ceramics and glassware.

Section 9.—Paintings and sculptures, architecture, drawings, intaglio, engravings, photography, etc.

Section 10.—Gold and silver wares, jewelry, carved lava, coral, tortoise shell, filigree work, etc.

Section 11.—Music and musical instruments.

Section 12.—Education, books, pamphlets, monographs, manuscripts, text-books, maps, plans, models, drawings, etc.

Section 13.—Mechanics, electricity, etc., steam-engines and locomotives, pumps, gas and electric motors, agricultural implements, surgical instruments, iron safes, etc.

Section 14.—Scientific and optical instruments.

SIXTH DIVISION—SCIENCE OF NAVIGATION.

Section 1.—Ancient navigation, models and drawings of vessels before, at the time, and since the discovery of America, appliances, machines, etc., used in ancient and modern navigation.

Section 2.—Armament, victualing or ship stores, ship chandlery and furniture, life-saving apparatus, diving apparatus, maritime hygienics, nautical instruments, charts, maps, drawings and paintings, yachts and pleasure boats.

Section 3.—Models and plans of docks, anchors, lighthouses, buoys, dredging machines.

SEVENTH DIVISION—ARCHÆOLOGY.

Relics (American, Spanish, Genoese, Venetian) of the time of the discovery of America.

AGRICULTURE IN SAN PEDRO SULA, HONDURAS.

REPORT BY CONSUL PETERSON, OF TEGUCIGALPA.

THE CITY.

The city of San Pedro Sula, Honduras, is situated in the northwestern part of the Republic, 38 miles from the port of Puerto Cortez, and connected with the port by a narrow-gauge railroad, which is a part of the interoceanic system. In a direct line it is estimated that the city is about 15 miles inland from the arm of the Gulf of Honduras, upon which the port of Puerto Cortez is located.

The population of San Pedro Sula is estimated at 5,000, and is rapidly increasing.

THE DISTRICT.

The district of San Pedro Sula embraces an area of more than 100 square miles. Of this a very large area is valley land, 350 feet above sea level and surrounded by high lands that are especially adapted to the growing of coffee, an industry as yet in its infancy, but which has of late engaged the attention of Americans as well as of natives.

COFFEE INDUSTRY.

During the year 1888* 54,000 pounds of coffee were exported to the United States and 833 pounds to Belize from this district. During 1890 there were exported about 180,000 pounds, only a small portion of which went to the United States. It is estimated that double this quantity will be exported during this year.

The price of coffee during the past 4 years has increased from $18 to $45 per cargo, or from 7 cents to 16 cents per pound, United States currency.

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*I have no statistics for 1889 and few for 1890, so I am compelled to use 1888 statistics.

An American firm has lately introduced machinery for drying, hulling, and separating the coffee bean into three grades. This is the first machinery of the kind or for this purpose introduced into Honduras, and is now used on a plantation a portion of which is 45 years old.

Coffee plantations will commence to give returns in 3 years, and after 5 years will pay very well to those who have the capital to invest in labor-saving machinery.

Although the valley lands yield nearly as much coffee per tree as do the higher lands, the former, as yet, are devoted almost exclusively to the production of bananas.

BANANA INDUSTRY.

About 2,000 acres of land in this district are at the present time under cultivation as banana plantations.

Owing to the uncertainty of transportation and the low prices, due to the fact that the transportation is in the hands of a monopoly, less than 100,000 bunches of bananas were exported during 1888. During 1890 over 400,000 bunches were exported.

From May 1 to September 1 the price paid is 18 cents per bunch, and during the remainder of the year 23 cents, United States currency.

The export duty on bananas of 1 cent per bunch has lately been removed.

Recently some Americans have sent samples of dried bananas to the United States, and, if they are successful in creating a demand for the dried fruit, they propose to introduce evaporators and engage in the business extensively.

On the expectation that the Honduras Interoceanic Railroad will be improved and extended many persons are locating land and planting bananas.

All bananas exported from this district go to the United States.

RUBBER INDUSTRY.

Rubber in this district bids fair to diminish in quantity of production very materially. The reckless manner of tapping the trees and the loss of trees in clearing the land will, in the near future, destroy the rubber production.

Growing rubber trees offers, without doubt, a paying investment. But, owing to the fact that it is as yet untried in this district, and therefore uncertain, and to the fact that it requires an investment of capital without returns for many years, the cultivation of the tree has not been tried, and the industry has given way to that of banana-planting, which yields quick returns.

The exports of rubber from this district during the year 1888 were 30,070 pounds to the United States and 833 pounds to Belize.

SARSAPARILLA INDUSTRY.

Honduranean sarsaparilla is a drug well known in the American market, where it ranks as first-class. It is exported to the United States in bales of about 200 pounds each. It seems to be the root of at least three different species of smilax. Some of the roots exported are looked upon by the natives as entirely inert. The exporters of sarsaparilla take great pains in preparing it for market—cleaning it by scrubbing with a stiff brush until all dirt and small fibers are removed, packing it in small bundles in a compact form, and then putting it into bales with heavy pressure and covering the ends with raw hide.

In 1888 39,000 pounds were exported, and it is estimated that this is about the average annual production.

INDIGO AND CACAO.

Indigo seems to be of little importance. In 1888 there were exported 1,311 pounds, and since then it is estimated that the exports have been growing gradually less.

Cacao, or the chocolate bean, produces very well in this district, but the supply is not sufficient for the home demand. It sells readily in San Pedro Sula, for private consumption, at 37½ cents per pound (United States currency).

HIDES.

Hides are exported in small quantities; 61,388 pounds were shipped in 1888. Deer hides are sent to the United States principally. In 1888 25,814 pounds of deer hides were exported to the United States and 174 pounds to Belize. The annual export of deer hides is from 25,000 to 30,000 pounds.

LOCATION OR PURCHASE OF LANDS.

The municipality of San Pedro Sula owns a large tract of land, and any person may secure the right of possession to whatever boundary (not already taken) he may locate and cultivate. This right of possession is the property of the settler only for the time he cultivates the soil, although before he loses his right it must be proven that he has absolutely abandoned the land. The right of possession is transferable. Lands other than this municipal tract belong to individual holders or to the Government and can be obtained in fee simple at fair prices.

GENERAL REMARKS.

It is expected that bananas and coffee will be produced in much increased quantities in the future. New capital is coming in and inaugurating these industries. The future prospects of sarsaparilla and hides is not brilliant, as industry seems turned towards bananas and coffee as promising the surest, quickest, and best returns.

The rubber production will practically cease, at least until capital willing to wait for returns will seek this source of investment.

It is expected that the repair and extension of the Interoceanic Railway will instill increased activity into agricultural interests in this district, which offers unparalleled advantages as to climate, health, and productiveness of the soil.

The revival of the United States consular agency at San Pedro Sula by the Department and the appointment of Dr. J. M. Mitchell, jr., as consular agent will give to business men of the United States a better means of obtaining information concerning this district and will be a source of benefit to prospectors and capitalists seeking investment.

JAMES J. PETERSON,
Consul.

UNITED STATES CONSULATE,
Tegucigalpa, June 6, 1891.

THE GRAIN QUESTION IN GERMANY.

REPORT BY COMMERCIAL AGENT SMITH, OF MAYENCE.

A severe winter and a backward and rainy spring injuriously affected the grain crops of Europe, and the probability is that there will be a much less quantity of good wheat and rye harvested this year than is usually obtained. This prospect has given rise to a good deal of talk and speculation in Germany and led newspapers and politicians in opposition to the Government to magnify the evil as much as possible and seek to force from the Government a modification or temporary suspension of the grain duties until February of next year, when the new commercial treaty with Austria-Hungary, providing for a reduction of the duties on wheat and rye therefrom, will go into effect if ratified by the two countries, as it no doubt will be. But the Government appears to remain steadfast in its determination not to modify or suspend the duties at present, and maintains that the stock of wheat and rye on hand and the outlook for the year, although somewhat unfavorable, do not warrant the clamor that has been raised, and that the wants of the country will be supplied at reasonable prices without a resort being made to a suspension of duties to keep them in proper bounds; and, besides, such an act, it says, from its transitoriness, would probably very much unsettle the grain market and lead to mischievous consequences. France, however, in apprehension of a tight market, has determined to lower its duties on grain and flour to avert discontent among its working people.

Bread is 50 per cent. dearer in Germany than it was 5 years ago, and potatoes, another great article of consumption among the poor, are 80 per cent. higher than in 1890; and the Social Democrats are taking advantage of the high prices now prevailing for food to impress with additional emphasis upon the working people the wrongs they labor under and embitter them all the more against the governing classes. Ever anxious to incite the common toiler to discontent with the conditions existing about him, they eagerly avail themselves of every opportunity that presents itself to maintain and augment his dissatisfaction; and high bread and meat prices, brought about in part by duties which can be argued to have been levied to favor a small landed aristocracy at the expense of travailing millions, undoubtedly make an excellent weapon for this purpose.

Prince Bismarck is said to have cherished the belief, and to have made this belief a principle of policy and action while chancellor of the Empire, that Germany is essentially an agricultural State, and that its well-being is inseparably connected with that of its agricultural aristocracy, whose particular interests should consequently always be an object of solicitous concern to the State. He had an idea that the farmers of the Empire would be able, through protection, to supply the ever-increasing needs of the country in breadstuffs, and he obtained for them all the special legislation he well could. It was also his policy to shield German manufactures from foreign competition by protective duties, but manufactures are represented to have been, nevertheless, secondary in his eyes to agriculture. Thus he strove to preserve both agriculture and industry from foreign competition and to stimulate each, but he made many enemies thereby who soundly denounced his internal policy; and the latest protection to the farmers happening to be made at a time when meats and breadstuffs started on a rise, it has had the appearance to the laboring people of greatly enhancing the cost of living to them to put money into the pockets of a favored class.

"The foreign seller will pay the duties," argued Bismarck before the Reichstag in pleading for increased duties on grain, "and our farmers will get the protection they stand so much in need of." But the foreigner does not always pay the duties, as the result proves, and Bismarck, at the time he did it, was laughed at for making such a declaration. The price of the imported grain has recently been, as a general thing, the selling price of the native cereal plus the customs duty. General von Caprivi, the present chancellor of the Empire, said a few days ago in the Prussian Landtag, in commenting on the present grain situation in Germany, that for a number of weeks the price of grain in the Empire had been the world's price, that is, the London price plus the German duties, but that at the time he spoke it was varying, being sometimes above, sometimes below this; in general, however, the price in the world's market plus the German duties.

Careful students of the matter are of the opinion that the high duties, while influencing grain prices, have not all along raised them on the whole to the extent of the duty, but, nevertheless, materially enhanced them, and sufficiently so to have a marked influence upon the economical life of the people. Upon wheat the increased duty decidedly manifests itself, but upon rye less so, as Russia seems to take a part of it. Cheaper freights and better facilities for carriage and storage in Russia have contributed to cheapen rye.

At the time of the creation of the German Empire there were no customs duties levied on grain by the states composing the German Zollverein, or customs union, and there had been none since 1865, when slight duties then existing were abolished; and from 1871, when the Empire was established, to 1879 no duties on grain were exacted. In this year a duty of 23.8 cents per 100 kilogrammes (220 pounds) was laid upon wheat, rye, and legumes and of 11.9 cents upon barley, maize, and buckwheat. This was going beyond all precedent, I believe; but in 1885 the duty on wheat and rye was trebled and made 71.4 cents per 100 kilogrammes, while being proportionally raised on buckwheat and barley. But still the German farmers were not satisfied and demanded more, and in 1887 they got the duty on wheat and rye increased to \$1.19; on oats and malt, to 95 cents; on barley, to 53½ cents; and on buckwheat, legumes, and maize, to 47½ cents per 100 kilogrammes. They would have liked to have gone further, but a halt was cried here.

With the improvement after our civil war of the means of transportation and the cheapening of freights, it became possible for our people to compete keenly in the markets of Europe in wheat and pork with the products of the Old World and considerably lower their prices. The force of this competition the farmers of Germany were not long in experiencing, and it became manifest that the Government must afford them aid or general bankruptcy would ensue and break down a long-established gentry. Heavy importations from America, Russia, and India were keeping grain prices at so low a figure that there was little or no profit to the German farmer in their production, and he had to get protection or sell out. Germany does not raise wheat and rye enough to meet its own needs, and must look to foreign sources to supply the deficiency; but it can not afford to have what it does produce depreciated in value and rendered unprofitable by excessive importations. The men thus threatened were for the most part of noble lineage and pillars of the monarchy, with sons constituting the flower of the German army, and the State could not idly view their demoralization. It had to make an effort to shield them from acute foreign competition, especially when that competition threatened to destroy their standing as a class by driving them into bankruptcy and forcing the sale of their lands or reducing them to inferior ways of living that would ill comport with their standing. These men are cultivating their estates under hampering and dear conditions, are living expensively, and can not compete, without Government favor of some kind, with American products that come from large tracts of new and rich land, obtained cheaply and cultivated with highly efficient agricultural machinery that does away largely with manual labor and makes the cost of production light; and it is not only in grain that they are deeply interested, but in those other products of the farm that enter so largely into the daily use of men, such as pork and beef, brandy and sugar, for they are the great distillers and sugar-makers of the realm, I understand. It is only natural, therefore, in view of this relation, that the interests of these men should command a very respectful hearing in governing circles.

The increased duties did not lessen the amount of grain imported; on the contrary, there has been a greater importation of wheat than before. But they must have checked excessive importations, and thus have been advantageous to the farmers. No amount of reasonable protection can, it is said, stimulate the production of grain in Germany to the extent of materially augmenting the amount raised in the Empire and making it independent of the outside world in breadstuffs. Germany will always have to do considerable importing of the cereals.

But, whatever effect the imposition of the grain duties may have had upon the farmers or on the country at large, it was undoubtedly a lucky venture for the national treasury, as it received thereby in 1889 nearly $25,000,000, 27 per cent. of the entire customs duties collected being from grain. This was much more than anyone had any idea would be realized in any 1 year.

A Hungarian writer of note on political economy, von Matlekovitz, affirms that a revenue of about $20,000,000 derived by the German Government in 1889 from the duties on wheat and rye caused the German people an additional outlay of at least 275,000,000 marks ($65,000,000) by enhancing the price of wheat and rye.

Russia is the chief supplier of Germany with bread corns. In wheat 48.7 per cent. of the entire quantity imported from 1879 to 1890, exclusive of the exportation, came from Russia; in rye, 66 per cent. Austria-Hungary's participation was 23.6 per cent. in wheat and only 2.8 per cent. in rye. Last year (1890) the United States sent to Germany a little less than half as much wheat as Austria-Hungary and between one-seventh and one-eighth of the quantity that came from Russia. In rye Germany received more than twice as much from the United States as from Austria-Hungary, but the importation from the United States was only one thirty-third of what it was from Russia.

The following table will show Germany's imports and exports of wheat, rye, oats, barley, and flour since 1879:

IMPORTS.

Year.	Wheat.	Rye.	Barley.	Oats.	Flour.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1880	227,553	689,563	222,271	161,686	70,402
1881	361,949	575,454	247,828	262,590	80,570
1882	687,241	658,280	372,648	274,868	59,567
1883	641,910	777,046	321,507	260,076	67,066
1884	754,512	961,560	440,080	366,413	46,282
1885	572,423	769,701	438,036	218,083	27,677
1886	273,280	565,265	353,896	81,031	16,994
1887	547,255	638,544	511,526	167,577	24,465
1888	339,767	652,811	444,781	181,263	10,904
1889	516,887	1,059,731	651,422	258,004	13,922
1890	672,344	876,214	734,967	187,612	14,242

EXPORTS.

1880	178,170	26,587	154,409	43,564	144,607
1881	53,388	11,564	119,318	31,591	91,663
1882	62,502	15,755	79,743	25,779	138,074
1883	80,758	12,134	82,824	41,823	166,796
1884	36,193	6,286	37,265	18,527	131,431
1885	14,080	4,021	24,706	12,821	133,250
1886	8,294	3,198	58,080	16,493	138,406
1887	2,840	3,138	20,748	8,285	136,950
1888	1,116	2,262	23,245	1,815	151,128
1889	758	608	22,113	328	145,243
1890	206	119	6,425	461	116,191

NOTE.—These tons are of 2,200 pounds.

Notwithstanding the duties, the average price of wheat in old Prussia during the last 10 years was less than that for the period from 1850 to 1870, and considerably less than that from 1870 to 1880. In rye the average price was pretty much what it had been previously. How prices ran per ton of 2,200 pounds is shown by the following exhibit:

Period.	Price.				Relative rise or fall.			
	Wheat.	Rye.	Barley.	Oats.	Wheat.	Rye.	Barley.	Oats.
	Marks.	*Marks.*	*Marks.*	*Marks.*				
1851–'70	207.70	160.00	148.20	142.20	100	100	100	100
1871–'80	223.20	172.80	166.40	157.80	107.46	108	112.28	112.32
1881–'85	189.60	160.00	154.80	145.80	91.29	100	104.45	102.53
1886–'89	171.84	137.00	134.00	129.76	82.73	85.63	90.42	91.25
1890	192.00	169.40	167.16	164.20	92.44	105.88	112.8	115.47

According to these figures, the complaints of the opposition journals as to the tremendous enhancement of the price of grains through the customs duties are not well founded when the relation of prices of to-day in the Empire is compared with those of a long series of years; but when a look abroad is taken and a comparison of the ruling prices in Germany is made with those of countries free of duties, there is a justification for murmur. It is not a question of whether prices are higher or lower than they have been for years, but whether the Germans have to pay more for their bread in consequence of duties than other people do for theirs, and whether, through taxation, the workingman loses on one of the main necessaries of life an advantage he would otherwise enjoy. The fact is that the grain duties, it has been calculated, cause the workingman of family on small wages an expenditure of about $5 a year, which means a good deal where every penny counts.

The effect of the grain duties is very nicely exhibited by a comparison of the price of wheat in seaport places enjoying free entry with those paying duty. Dantzic, for instance, a free port, quotes wheat from 1879 to 1884, when the duty was only trifling, at the same figures as Königsberg and $1.42 per ton of 2,200 pounds lower than Stettin. From 1885 to 1887, when the duty was $7.10 per ton, Königsberg's quotation rises to $3.57 above Dantzic's and Stettin's to $4.52. In 1888–'89, when the duty was $11.90 per ton, the difference was $8.80 with respect to Königsberg and $10.71 in the case of Stettin. A similar picture is presented by a comparison of the price of rye at Bremen, a free port, with the prices, comprehending duty, ruling at Stettin and Berlin. From 1879 to 1884 the average price of rye at Bremen was 38 cents less than at Berlin and almost 59 cents less than at Stettin. From 1885 to 1887, under a duty of $11.90 per ton of 2,200 pounds, the price of rye at Bremen, where no duty had to be paid, was $6.18 less than at Berlin and $5.47 less than at Stettin. With the duty increased in 1887 still further to $11.90 per ton, the price at Berlin became $10.47 higher than at Bremen and at Stettin $10.

From 1851 to 1870 the ton of wheat cost in England, on the average, $10 more than in Prussia, it is said; from 1871 to 1880, only 71 cents more; from 1881 to 1885, about $2.14 less in England than in Prussia; from 1886 to 1889 it got to be $7.61 more in Prussia, and in 1890 $10.47 more. In southern Germany the difference was still greater in later years. In recent years rye has been $4.76 dearer in Prussia than wheat in England.

Rye is the grain mostly used in Germany for bread. The poor use but little wheat, and with the well-to-do even rye is often preferred to wheat bread. Rye is higher now than it has been for years, and, according to Mr. Richter, one of the leading politicians of the Empire, there have been during the century higher prices only in 1816–'17 and 1846–'47, which were famine years; in 1854–'55, during the Crimean war; in 1867–'68, which was a year of great scarcity; in 1873–'74, and in 1880–'81. In these years, apart from 1880–'81, there were either no duties existing or they were suspended.

Price quotations show that under the duties such places as Berlin, Halle, and Leipsic, in the northern part of the Empire, pay proportionately more for wheat and rye than places near or on the Rhine, as Frankfort and Cologne; and that places in southern Germany, as Lindau, Munich, and Stuttgart, pay more for wheat than northern ones, though not quite so much in the last 2 years for rye. This is rather an interesting fact, which is more clearly set forth in the following tables, where 100 is taken as the price from 1879 to 1884 and the relative price since put above or below 100, as it has happened to be:

Table showing the relative price of wheat in the German Empire from 1879 to 1890.

Markets.	1879–'84.	1885–'87.	1888.	1889.	1890.
Dantzic*	100	74.13	70.95	72.20	76.15
Königsberg and Posen	100	82.28	88.05	92.77	98.04
Stettin	100	81.26	90.14	93.31	97.41
Berlin, Halle-on-the-Saale, Leipsic, and Magdeburg	100	81.61	88.64	93.62	97.28
Cologne and Frankfort	100	80.16	84.79	90.25	95.36
Lindau, Munich, and Stuttgart	100	88.81	92.84	95.82	101.5

* A free port.

Table showing the relative price of rye in the German Empire from 1879 to 1890.

Markets.	1879–'84.	1885–'87.	1888.	1889.	1890.
Bremen*	100	66.8	62.92	67.48	76.45
Dantzic	100	79.18	80.54	98.86	105.36
Königsberg and Posen	100	79.53	79.32	96.11	104.29
Stettin	100	82.47	85.20	98.92	107.71
Berlin, Halle-on-the-Saale, Leipsic, and Magdeburg	100	80.55	81.98	96.46	104.81
Cologne and Frankfort	100	81.57	80.5	90.95	98.71
Lindau, Munich, and Stuttgart	100	87.41	86.63	92.56	103.25

* Without duty.

In recent years it has become more difficult for the German farmer to dispose of his products than formerly. This is largely because of a general complaint that the grain of northern and central Germany is poor in gluten, and foreign grain, in consequence, commands a better price in the German market than the native does. The German peasant is also charged with not planting his grain sufficiently clean and with careless cleaning and separating of it after harvest. His grain lacks the uniformity the foreign article generally bears. The result is that large dealers and millers buy foreign rather than native grain, and leave the peasant to sell his small crops at disadvantageous prices to small buyers. For such agriculture to be defended by Government protection is to my mind a very unmerited fostering.

What influence the high grain duties exert upon farmers does not clearly appear. The position of the small farmers would enable them to adapt themselves to new conditions much more easily than the large ones could; but, says Professor Conrad, of Halle, in an article in the Jahrbücher für Nationalökonomie und Statistik:

> All reports agree that nowhere has any decided improvement in the methods of agriculture taken place, but rather a greater attention been given to cattle-raising as an offset for low grain prices.

There has been, however, no diminution of the land under grain cultivation, but rather a slight increase of it, as will appear when it is stated that to the four leading grains were devoted: In 1878, 13,508,036 hectares (about 33,770,090 acres); in 1883, 13,621,090 hectares (about 34,052,725 acres); in 1888, 13,668,699 hectares (about 34,171,747 acres). The amount of land given over to rye declined from 5,927,000 hectares to 5,814,000 hectares (about 282,000 acres less), while the area under wheat cultivation rose from 2,204,000 hectares to 2,899,000 hectares, a gain of about 1,737,000 acres.

The great trouble in Germany is that farm land is held too high. In the last 100 years, especially between 1840 and 1875, it has steadily risen in value. Any favor received from the Government which eases the position of the farmer makes his land more valuable to him, so that old conditions soon become reached again, and all protection gives him artificial prices to depend upon, which, if ever removed suddenly, would let him down with a bump, to his great disaster. He has got to conform to the new conditions which have arisen by holding his land cheaper and working it more rationally, and it is simply a question of time when the final reckoning comes. His judgment may be deferred, but it can hardly be prevented. He is not like a manufacturer, who by protection can build up a new industry. Farming is an old pursuit which in these days must be followed on new lines. The price of land should reach a basis where the land can be profitably worked.

In old Prussia, that is, Prussia as it was prior to 1866, when new territory was acquired, there are 289,444 hectares (about 723,610 acres) of arable demesne land rented out. Taking 100 as the rent paid in 1849 per hectare (2½ acres) for such land, the statistics of the monarchy show that the same land brought in 1869, 20 years later, 187.84 per hectare; in 1879, 256.33; and in 1890–'91, 280.22. This is a decided rise. The price paid per hectare was $3.30 in 1849, $6.21 in 1869, $8.47 in 1879, and $9.27 in 1890–'91. The land is taken for 18 years always. In the case of new leases a decided drop has taken place in the last 4 or 5 years in the amount of rent stipulated for. The old tenants are paying high rents, but an exhibit of the new leases made since 1876 shows that, while the rent agreed upon in 1877, compared to 1870, was as 159.3 to 100, in 1889, compared with 1877, it was but as 78.9 to 100. How the rent has fluctuated from year to year from 1877 to 1889 in the case of new holdings will be seen from the following table:

Table showing the number of new leases made and the relative prices per hectare above or below the old leases, taking 100 as the old price, from 1877 to 1889.

Year.	Number of leases.	Relative prices.
1877	26	159.9
1878	35	138
1879	14	155.5
1880	31	108.6
1881	29	109.5
1882	30	105.9
1883	45	154.5
1884	23	135.2
1885	32	122.9
1886	26	107.8
1887	45	89.6
1888	40	82
1889	9	78.9

In Baden the average rent paid for agricultural land has sunk from $22.84 per hectare in 1878 to $20.23 in 1888, while meadow land has gone from $2.83 to $2.53. Only those estates, it is said, which are bound up in entail or have only one heir will draw permanent advantage from the legislation of the past few years in favor of the farmers, such as the increased duties on corn, wood, and meat and export drawbacks on sugar and brandy. All others will experience in the end damage, because of the custom so general among the German gentry of one heir taking the land bound by obligations to the rest of his family, whose interests become mortgages equivalent to their share in the inheritance at good rates of interest, whereby the estate becomes at times heavily fettered to the great detriment of the possessor. Should a drop in the protective customs duties or a heavy and lasting general fall through any means in the price of farm products come, there would doubtless be a great shrinkage in the value of farm land, which would fall solely upon the party in possession, encumbered by family or other obligations founded on a high valuation; and, should the duties on farm products continue 10 or 12 years longer, it is apprehended by some that they could not be removed without bringing about ruin to at least one-half of all the large farmers. They are working along with a deficit every year which will in time eat up their capital.

"During the last 3 years," said Count Kanitz, one of the farmer party, in the Prussian Landtag on June 12, "273,000 hectares (682,000 acres) of arm land have been sold in Prussia at forced sales, 82 per cent thereof in the eastern provinces, where farming is the chief occupation of the people. While the farmers have been declining, the wealth of the country at large in the last few years has increased $81,396,000, and the average weekly wages f the workingman have in the last 10 years risen from $4.52 and $4.76 to 7.85 and $8.50 a week; and in Berlin one sees large stone houses torn down for grander ones to be erected in their stead, but no such evidence of prosperity is witnessed in the country. We people in the country have to keep on patching our miserable thatched roofs. The high prices ruling for bread are due largely to the big profits made by the bakers." "Well, then," said a voice, "why don't you give up farming and go to baking?"

While the Government is indisposed to have the grain duties lowered by legislation, and does not consider a reduction of them an economical necessity, it perceives that they can be very advantageously used to conclude treaties of reciprocity with neighboring states and is now employing them to this end. It will look out for the farmers, but manufactures and commerce will probably be of more concern to it.

Germany ceased long since to be an agricultural State, although its agriculture is still of marked importance. It has become one of the great manufacturing and commercial states of Europe, sending abroad its ships to all quarters of the globe, and in commerce is surpassed now only by England. Of the exports of Germany 72.4 per cent. are articles of manufacture, while of its imports only 15.9 per cent. figure as manufactured goods. It thus largely supplies itself with its own manufactures and looks abroad for breadstuffs and raw materials. Of Great Britain's exports 91.9 per cent. are manufactured goods, and of its imports only 12½ per cent. Therefore, argue many in the Empire, Germany's nearest interests lie in manufactures, and its economical policy should be to foster these, which can best be done by imitating the example of England and allowing free access to breadstuffs and the raw materials which enter into manufactures. Up to 1879 it was Germany's disposition to have a moderate tariff, and the present Government, it is said, is disposed to return to the old traditions departed from by Bismarck; but of such a disposition I see so far no manifest evidence. The Empire, it is true, is just engaged in negotiating a series of commercial treaties with neighboring states, but just what it proposes to grant and obtain by such compacts the uninitiated can not undertake with accuracy to say. What it is striving to effect has somewhat the appearance of a commercial coalition against France and of a commercial confederacy of the states of Europe offering a solid front to the United States of America. Either may be the object had in view, and neither may, in fact, be intended. It is possible that it has been determined to depart from the high duties of the past, but, instead of lowering them by legislation, to use them to secure advantages from other powers through treaties with reciprocal benefits. A treaty of reciprocity with Austria-Hungary has just been concluded, and this treaty is to be followed, it is said, by a number of others with Switzerland, Servia, Italy, Roumania, Belgium, Holland, Spain, and Portugal, and it is even possible that in the end Russia and France will be added to them. With England a commercial treaty is not a necessity, as her ports are always open.

Should the Empire be fortunate enough to conclude favorable commercial treaties with the aforementioned eight states, a territory, including its own area, of 2,343,000 square kilometres, with 159,000,000 inhabitants, and an import and export trade amounting to $5,049,884,000 would be brought into commercial union. Opposed to this would be France with its 38,000,000 inhabitants and extensive trade and Russia with 95,000,000 inhabitants and a vast territory, but of secondary consequence in commercial and industrial respects. Such a prospect, it can well be imagined, is very unpleasant to France, who sees herself threatened with a sort of commercial isolation if she persists in her present policy of high duties and unfriendliness to reciprocity.

The treaty with Austria-Hungary is a natural outcome of the intimate political relations subsisting between the two countries and an extension and solidification thereof. Germany lowers its duty on wheat and rye from $1.19 to 83 cents per 100 kilogrammes, and Austria, in return therefor, modifies certain of its duties on industrial articles in which Germany is greatly interested. The treaty is a departure from Prince Bismarck's policy, and were he still at the head of affairs it would never been concluded.

Germany does not produce any one of the cereals in sufficient abundance to supply its own needs, and the statistics of its foreign trade show a much larger importation of wheat, rye, barley, corn, and oats than exportation. The average annual importation and exportation of each of these grains, as well as of flour and malt, during the 10 years 1880–'89 was, in round numbers, about as follows:

Articles.	Imports.	Exports.	Difference.
	Tons.	*Tons.*	*Tons.*
Wheat	492,300	43,800	448,500
Rye	734,800	8,600	726,200
Barley	400,399	62,200	338,200
Malt	60,600	6,300	54,300
Oats	223,200	20,100	203,100
Maize	217,100	....	217,100
Flour	41,800	137,800	96,000

So in flour only was there a greater exportation than importation.

Now, it would naturally be to the interest of Germany to draw what it lacks from those geographical neighbors which are its political allies rather than from the remote United States, and to stimulate its manufactures by furnishing its neighbors with manufactured goods in return for their grain. Russia and Germany are no longer on excellent terms, and they would hardly just now be inclined to establish intimate trade relations with each other. Besides, the policy of Russia is one of high protection. Russia has an abundance of grain, but Germany would not be expected to go to Russia first of all to get its breadstuffs. It would naturally first look to Austria-Hungary, its near friend and ally. Hence, in its new policy, it begins with this monarchy. Austria-Hungary shows an ability to export, but its capacity to do so is not equal to Germany's demands, and Germany must look still further for the balance.

Tables for the years 1880–'89 show that Austria-Hungary's average annual export was greater only in wheat, barley, malt, oats, and flour than its import, and that of rye and maize it was obliged to import a greater quantity than it exported, as follows:

Articles.	Excess of exports.	Excess of imports.
	Tons.	*Tons.*
Wheat	122,200	
Barley	269,500	
Malt	95,900	
Oats	36,300	
Flour	141,900	
Rye		40,700
Maize		136,300

Austria-Hungary can not, therefore, according to these figures, make up Germany's deficiency in any one of the items in which it is lacking except malt; and, considering the flour and malt by the quantity of wheat and barley respectively that enter into them, Germany and Austria-Hungary combined do not raise in wheat, rye, maize, and oats all that they require of these articles, and Germany, if desirous to confine its trade in them to European countries, would have to go beyond Austria-Hungary. Next to Austria-Hungary it would want to turn to Italy, its other ally in the so-called triple alliance; but Italy, too, is compelled to look abroad for the satisfaction of her needs. She is far from producing wheat enough for herself, and imports about 528,000 tons a year, reckoning the flour imported as grain at 100 pounds of grain to 82 pounds of flour. In the matter of rye Italy is not to be considered, either in export or import respects. In maize she lacks about 2,900 tons annually; in oats, about 1,900 tons; and in barley, about 600 tons. These friends and allies—Italy, Germany, and Austria-Hungary—are therefore clearly not able, without outside help, to keep themselves in the grains and bread of life. Perhaps they would like to form a kind of close corporation to do so, but the ability to produce does not at present appear to exist. Russia is a great granary, but relations with Russia are a little strained on the part of them all, and in the forming of treaty compacts providing for reciprocal advantages they would prefer to look toward the Balkan states. Switzerland does not count for anything in the production of grain, and Greece is a grain-importing State, while Turkey, on account of the peculiarity of its situation and interests, and Servia, because of its slight exporting capacity, can not be calculated upon. Bulgaria and Roumania, therefore, as grain-growing territories, are the only remaining states to which Germany can direct its attention. They are both good producers of the various grains and export them to a considerable extent, but they could only make up the deficiency of Germany, Italy, and Austria-Hungary in barley, wheat, and maize; for the aggregate average annual showing of the five countries (Germany, Austria-Hungary, Italy, Bulgaria, and Roumania) in respect to their combined needs is as follows:

Grains.	Available for export.	Necessary to import.
	Tons.	*Tons.*
Barley	337,000	…………
Maize	332,000	…………
Wheat	122,000	…………
Rye	…………	638,000
Oats	…………	125,000

There thus appears to be an inability on the part of the five states in question to fully supply one another with all the grains had they the desire to do so. In barley, maize, and wheat they might be able to do it if they confined their trade in these articles strictly to one another, for their combined production of these three cereals shows an excess over their requirements of 337,000 tons in the case of barley, 332,000 tons in the case of maize, and 122,000 tons in that of wheat; but there is the large lack of 638,000 tons of rye and 125,000 tons of oats, which would have to be procured outside of the alliance. But the important factor of reciprocity in any such commercial union and the probability of states not parties to the compact resenting the exclusive policy of those committed to it by inimical discriminations against them will probably prevent any such league from becoming an enduring reality should one such ever be formed. Too diverse interests are at stake. Discrimination in grain on the part of one in favor of another calls for a reciprocal concession from the other, which might lead to various kinds of commercial or industrial disturbances. A permanent compact which shall bind them to one another in trade and industry seems to me hardly possible, and I doubt if an actual commercial confederation is contemplated. Such a thing between a couple of states might be brought about, but scarcely for all Europe.

JAMES H. SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, June 23, 1891.

Trieste no longer a free port.—The port of Trieste, which became a part of the Austrian dominions in 1332, was declared a free port by the Emperor Karl VI, father of Maria Theresa, in 1719, and goods arriving at said port have been entered without payment of customs duties from that date up to the 1st of July, 1891, on which date it was placed on the same footing, in regard to customs duties, as other cities of the Empire.—F. D. GRANT, *Minister, Trieste, August 1, 1891.*

THE PETROLEUM MONOPOLY IN EUROPE.

REPORT BY CONSUL-GENERAL EDWARDS, OF BERLIN.

I have the honor to transmit herewith articles from leading German newspapers, together with translations of the same, concerning the petroleum trade and the much-talked-of monopoly therein.

W. H. EDWARDS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, June 25, 1891.

THE PETROLEUM MONOPOLY.

[Inclosure 1 in Consul-General Edwards's report.—Translation from the Hanover Courier of June 24, 1891, morning edition.]

The petroleum monopoly with which the Standard Oil Company, in New York, in connection with the Paris Rothschilds, who control the Russian petroleum industry, proposes to afflict the world, is justly arousing attention in extensive circles. The might here united in the hands of the few for the fleecing of everyone in a certain way is the consummation of that economic form, which, under the names "combinations," "syndicates," "rings," or "trusts," in manifold gradations, has constantly grown in importance. Against these, from the beginning, we have taken a stand. Although in individual cases they may have a certain justification, in general they are economically and socio-politically dangerous, as their object or their effect is, if they meet with success, to place at the mercy of a narrow circle of interested parties the entire control of certain articles which the general public regards as necessaries. The national cartellists can, indeed, point to many instances which have our sympathy; but when, from their development, outweighing advantages arise for foreign consumers and corresponding injuries for domestic, this sympathy rightly disappears, and the domestic consumer, in his own interest, must seek ways and means to supply himself more cheaply in a foreign market. As has already often happened, and is constantly happening with us, the more the combination assumes an international character so much the more effectually is this means of escape cut off, for the sources of supply which have heretofore resisted absorption must sooner or later give up the struggle. It is unnecessary to paint more clearly in what economic dependence, when the ring is complete, the public stands to the will of the few; still less can one doubt how such economic montrosities must exercise disturbing influences in a socio-political way or how they will be used by the enemies of our economic order against the latter.

The Government, as well as society, is bound, especially against this attempt of the Standard Oil Company, to leave no means untried, however adventurous it may at the time appear, to escape this economic yoke. It would be fatal if Europe, without an attempt at serious defense in this struggle, would lay down, must lay down, her arms. Small means, such as the abolishment of the duty on petroleum barrels, would help very little and only temporarily. They would, however, be of value as a distinct sign of the desire to defend.

The peculiarity and danger of the petroleum ring lies in this, that it seeks to seize the entire petroleum business from original production to direct sale to individual consumers. That to the consumers the might of the petroleum ring has not yet shown itself in high prices is due to the fact that the ring is not yet complete; that the incorporation of the petroleum industry of Bakoo in the plan has not yet been secured. Here is, perhaps, the point at which successful effort may be made to avoid a serious economic calamity.

A "liberal" (Freisinnig) journal recalls, in this connection, the agitation which arose in Germany when it was proposed by the Imperial Government to introduce a tobacco monopoly. That of this agitation hardly any trace is now to be seen is due to this, that a government monopoly offers for the exercise of the activity of political parties entirely different opportunities of control and attack than does the monopoly of a private company. But we have confidence in our political parties that they will unanimously support all measures which will be undertaken by the Government against fleecing by private monopolies; and we think that such steps must be taken, for all the good points of a state monopoly—that the gains of the same are for the common good, and that those thereby injured can, in one way or another, be at least partially compensated, as, *e.g.*, was provided for in the tobacco monopoly—are wanting in a private monopoly, especially when the control is in the hands of foreigners. Such a monopoly is in every way unprofitable and dangerous to the public.

INTERNATIONAL PETROLEUM RING.

[Inclosure 2 in Consul-General Edwards's report.—Translation from the Berlin Vossische Zeitung of June 18, 1891.]

Recently, prompted by the communication of the minister of commerce to the Berlin Board of Trade, we thoroughly explained the circumstances under which, for a long time, attempts have been made by two powerful speculators in this article to create an international petroleum ring. Therein was shown the complete control which the American Standard Oil Company has known how to obtain for itself in the German petroleum market, and which has found expression in the German-American Petroleum Company, in Bremen, a company completely subservient to the American company. As is known, Bremen is one of the largest petroleum import markets in the world. It is therefore a striking fact that the Americans have compelled the great petroleum firms there to give up their independence and bow under their yoke. As a matter of fact, the business of the Standard Oil Company for a large district is now in the hands of a great Bremen firm, whose zealous activity in the common interest was formerly recognized in and outside of Bremen. The Weser Zeitung, which takes occasion, from the growing excitement in Germany in regard to the threatened petroleum monopoly, to interest itself at the same time in matters critical for Bremen's position, is of the opinion that the firm alluded to—Alb. Nic. Schütte & Son—was compelled to choose between accepting the new conditions or being crushed and incurring the danger of Bremen losing the entire petroleum trade without affairs being improved by a hair's breadth in the public interest; for no one doubts that the Standard Oil Company would not have gone a step out of its way if it had found no one in Bremen to enter into the demanded relations with it. As in Bremen, so also in Hamburg, the American speculators sought connections with the great petroleum houses, and, among others, forced the firms of August Sanders & Co. and G. I. H. Siemers & Co. to join them. The business control for the German ports lies, however, in the hands of the German-American Petroleum Company, in Bremen. Against the powerful Standard Oil Company, according to the Bremen newspaper, no other house could continue to compete, for there are only a few American enterprises remaining which continue the fight against the Standard Oil Company. Moreover, there was still another circumstance which favored the world monopoly of the Standard Oil Company and hastened the overthrow of the small petroleum trade. The German duty on petroleum barrels, which was intended to protect domestic coopers, naturally increased the expenses of firms which imported petroleum in barrels, while it favored the enterprise which imported the petroleum, not in barrels, but in ships' holds, and then, in the German ports, transferred it to barrels or cistern cars. Such ships, called tank ships, the Standard Oil Company has built in large numbers in order to make transportation cheaper. By this means, also, pressure was brought upon the great Bremen houses to compel them to enter into the plans of the Americans. In order to avoid the German duty on barrels, the Standard Oil Company erected at Geestemunde a barrel factory for American account. In other words, it erected its own cooper shop in Germany. The German firms which have merged their identity in that of this company attend only to the business of forwarding to the interior. They sell everywhere to inland wholesale dealers and the larger retail dealers in the required quantities. For this purpose the entire country is divided among the companies into fixed districts, so that for other merchants hardly standing room is left. Petroleum tanks have even been erected at various places in the interior, *e. g.*, at Riesa, Duisburg, Mannheim, and it is feared that next the retail dealer will be found superfluous if the company gives the small trade as a local monopoly to a branch magazine. One group of business men after another is thus made superfluous and pushed aside. First, the wells, pumps, and refineries in America, then the American export trade, then the private freight vessels (so far as they were adapted for transportation of petroleum), then the European import trade, then the export trade from European ports, and, finally, this overpowerful company threatens to seize the entire retail trade in petroleum. It is a world monopoly—and at that a private world monopoly—such as, according to the Weser Zeitung, in like extension and ramification has never before existed. And the seat of this monopoly is America. Its supporters are a number of private persons. If the attempt be successful to bring under the same hat the Russian petroleum industry, whose reins are in the hands of the Paris Rothschilds, then the use of petroleum throughout the whole world will be dependent upon a few New York gentlemen. How it will then be with the present comparatively low prices of petroleum it is now futile to discuss.

PETROLEUM COMBINATION.

[Inclosure 3 in Consul-General Edwards's report.—Translation from the Berlin Vossische Zeitung of June 12, 1891.]

The new Prussian minister of commerce keeps a sharp eye on the movements in the modern system of combinations by which the masses of the population are made tributary to great individual interests.

It is true that his power in such cases does not always reach so far as in the case of the attempt of the Rhenish-Westphalian iron capitalists to form a monopoly; but, where this is not the case, he shows his interest in the welfare of the suffering classes by his efforts to secure a timely disclosure of such efforts to increase prices.

Thus the minister of commerce has called the attention of the Berlin Chamber of Commerce, as was made known at the last session of that body, to the establishment of a new ring, which fact had before been brought to the attention of the public only in authenticated newspaper reports and had been received with doubt. The case in point was the formation of a ring by the two great controllers of the international petroleum business (the Standard Oil Company, of New York, and the Paris Rothschild house) for a division of the markets of the world and the fixing of a selling price for this article, so necessary for the use of the masses. For many years negotiations in this direction have been pending between both private monopolists. It was difficult to come to an agreement concerning market frontiers and the character of products, yet these difficulties seem to have now been surmounted. The Standard Oil Company has in its hands the North American petroleum business, while the Rothschild house in Paris has almost exclusive control of the petroleum export trade from Bakoo. Until the Transcaspian Railway was opened from Bakoo to Batoum, the European market was supplied exclusively with American petroleum. Only since then has the Russian product been able to compete with the American successfully in the world's trade. Consequently, American petroleum has been frequently supplanted by the Russian, especially in Russia itself. In South Germany, Austria, Italy, England, Belgium, Holland, and Sweden the Russian finds rich markets side by side with the American. The business fight between the two private monopolists was, indeed, vigorous, but did not result in such reductions of price as have been observed in other similar struggles. It appeared as though there were already secret agreements between the two which gave to the struggle its limits. At any rate, it was to be expected that two great capitalists would not continue such a war permanently, but would, sooner or later, agree to a common gain from the market.

It is so everywhere in commercial life. When the small must bring their produce to market the great make peace together and combine for the common gain attainable from their position of mastery. Heretofore the two petroleum speculators have marched apart in order to get into their hands the two largest petroleum districts of the world. After this has been accomplished they unite to fight in unison and to fix as they please the selling price for the whole world, which they divide between themselves.

So an international speculating ring stands before the door such as in like might and capital power has never before existed, and everywhere the intelligible fear prevails that within a short time the price of an article of use indispensable to all classes of people will rise with a bound, without it being possible for national legislation or control to raise any obstacles.

To what degree the German public would suffer from the ring is shown by the previous action of the Standard Oil Company in Germany. It has purchased almost all the petroleum steamers running between Europe and America and compelled the largest German and Dutch petroleum houses to become stock companies, and thus to fall under the control of the Standard Oil Company. Only at the beginning of last year were the largest petroleum-importing houses in Bremen, Hamburg, and Stettin united by the Standard Oil Company into a German-American Petroleum Company, with its seat in Bremen, while the same fate overtook the Dutch importing firms near the end of the year. Thereby the unloading appliances of those houses, together with their customers, were transferred to the Standard Oil Company, which was now in position to easily push aside any remaining competition. The German petroleum business has since then been controlled by the Standard Oil Company, which has also fixed the selling price of this indispensable article. From this the almost invincible position of the American company in Germany can be seen. But this is shown still more plainly by the threat of the German-American Petroleum Company to erect petroleum tanks in all the larger German cities and to supply the retail dealers, and, perhaps, also the larger consumers, directly with petroleum, thus destroying the business of middlemen, in case the duty on petroleum barrels be removed in favor of small dealers.

The hope that Russian petroleum can perhaps be a substitute to break the overwhelming might of the Americans in the German market is idle if the combination is really effected between the Standard Oil Company and the Paris Rothschilds. No turn of affairs can be counted on. Already too long have the efforts to form such an international petroleum ring been unopposed. Now the danger is recognized, and it appears that steps are being considered with which to meet it. The communication of the Prussian minister of commerce shows this, but if it will lead to practical results is, indeed, another question.

THE PETROLEUM MONOPOLY.

[Inclosure 4 in Consul-General Edwards's report.—Translation from the Hanover Courier of July 13, evening edition.]

On this subject, the journal Industry contains a long article, which begins with the sentence, "There is no room for doubting that very soon we will have an international petroleum monopoly." The agreement between Rothschild and Rockefeller seems to this journal to be beyond doubt, because it is in the interest of these two masters of the most important petroleum wells in the world. It appears that Rothschild and Rockefeller have already agreed concerning qualities and prices, while the division of the world's markets is still under negotiation. The article then goes into the organization of the monopoly, a matter which we have already several times discussed. While in North Germany American petroleum has an exclusive monopoly, in South Germany it encounters competition with Russian petroleum, and a careful observance of the South German market will therefore very soon throw light on the agreement between the two monopolists. Beyond question, America supplies by far the greater part of the petroleum which is used in Germany.

According to imperial statistics, the importation of petroleum into Germany was as follows:

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1880	266,587	1886	438,395
1881	364,879	1887	509,399
1882	342,510	1888	564,172
1883	370,305	1889	625,668
1884	462,545	1890	646,803
1885	482,189		

Of the amount imported in 1890 the United States supplied 549,772 tons; Holland, 15,325 tons; Belgium, 30,917 tons; Russia, 43,520 tons; and Austria, 5,372 tons.

The petroleum imported from Holland and Belgium was undoubtedly of American origin, while that imported from Austria was probably Russian.

What influence the monopoly will have on prices is, according to the Industry, doubtful. The consolidation of the petroleum industry of the United States into one hand has rendered possible a considerable reduction of price; ever since the establishment of the Standard Oil Trust the price has fallen.

That the completion of Russian petroleum has had any perceivable influence in reducing the price of the American article can not, according to the Industry, be positively asserted. Nevertheless, it is possible that Russian competition has had a temporary influence in this direction and that in the future the importance of its influence will be increased. It is, moreover, certain that the removal of this competition and the consolidation of the management of the two chief petroleum districts is disadvantageous to us. The matter has a still worse appearance when viewed from the standpoint of the former German petroleum trade. By the monopoly this trade is rendered impossible; it is ruined.

So far we can agree with the spirit of the article referred to, but not when it continues: "But it is another question if the wholesale petroleum dealers are ruined. Trade is so mobile that even here it may be possible to escape from the difficulty. In order to be able to ask support from any quarter, this trade must prove that it is in better position to effect the sale of petroleum in Germany than is the Standard Oil Trust. We doubt if, through its former actions, it is in a position to supply this proof. It is possible that the control of this business by a single party may result in further reductions of price. Concerning this, as well as concerning the future influence of the monopoly and the agreement between Rothschild and the Standard Oil Trust, only the future can decide. As far as the trade is concerned, it must become resigned to seeing itself supplanted by these speculators. This has already happened frequently in other fields of enterprise. Every combination makes a part of trade superfluous; therefore, before measures are adopted against the petroleum monopoly, it must first be shown that in its operation it is injurious. If this proof can be supplied, it must still be considered if we possess means to take a stand against an international monopoly and what these means are."

These last expressions we must very energetically oppose, not only in the interest of the German petroleum trade, but especially in the interest of German consumers. Whoever has not adopted as his specialty an enthusiasm for everything called combination or trust will not understand why we should surrender ourselves to the tender mercies of Russian-American monopolists. If anything can be done, then we must not wait to learn from the future, *i. e.* until it is too late.

We rejoice to see that the Government appears not to be waiting with its hands in its lap. At least the Königsberg Gazette reports that, among others, Privy Counsellor von der Leyen has been directed by the minister of trade to investigate how the threatened union between the Standard Oil Company and Rothschild can be prevented.

Herr von der Leyen has lived many years in America and thoroughly understands trade conditions there. Especially concerning the plans of the Standard Oil Company had von der Leyen made careful study before the latest attempts to extend its enterprise began.

[Translation from Hanover Courier of July 17, morning edition.]

In an article concerning the petroleum monopoly the Hamburg Börsenhalle says that the struggle is not merely against the Standard Oil Company, "but against the attempts of this company and its European representative to obtain sole possession, or possession of any sort, of the storing places on this side of the ocean—this is undoubtedly the goal which every effort is being made to reach—for if the monopoly wins the game the fate of the free trade in petroleum and of the consumers is sealed. For this reason we dare not allow the monopoly to carry its point, and this is why it is so exceedingly necessary that in all German ports the harbor and trade officials shall not renounce their sovereignty over wharves and storing places, either in favor of the Standard or of any other company."

These remarks are worthy of very careful consideration, and we think it self-evident that neither Hamburg nor any other German officials will give way to the monopoly in the manner mentioned.

At any rate, this article presents another and very important side of the struggle against the dangerous monopoly.

MINERAL RESOURCES OF COAHUILA.

REPORT BY CONSUL FECHET, OF PIEDRAS NEGRAS.

The laws regulating the acquisition, holding, and working of mines and mineral lands are uniform throughout the Republic of Mexico. These laws are known as the federal mining code (law of December 15, 1883).

MINING CODE.

There is a distinction made between precious and noble metals. Mines, mineral deposits, etc., are acquired and held by denouncement under provisions of the federal code. The following metals and minerals are subject to acquisition by formal denouncement, viz: Gold, silver, lead, copper, iron, manganese, mercury, tin, antimony, zinc, rock salt, sulphur, placers of gold and platinum, and precious stones used in jewelry. Deposits of borax, soda, and alum, while not specially named, are undoubtedly included. Metallurgical and smelting sites for the treatment of ores and water for motive power and for needs of workmen and animals may be acquired by denouncement.

The following minerals, rocks, and earths are not denounceable, but pertain to the holder of the fee-simple to the soil: Mineral coal, limestone, slate, porphyry, basalt, and building stone generally, clays, sands, etc., placers of iron and tin, salt existing as an efflorescence on the surface, petroleum and outlets of gas, thermal or medicinal waters. Mining claims (*pertenencias*) are 200 metres in length by 100 to 300 metres in width, according to dip or underlay of vein. Private individuals are entitled to three *pertenencias* and incorporated companies to four.

The federal code only permits a maximum tax of 2 per cent. on the gross value of the ores extracted, estimated at the mouth of the mine, and a tax (maximum) of $6 on every $1,000 value of metallurgical work with machinery, etc.

MINERAL RESOURCES OF COAHUILA, SANTA ROSA MOUNTAINS.

Villa de Musguiz district.—This district yields silver-lead ores. The output has been small, but is now increasing and will probably be considerable. The principal mines are the Cedral, Parellon, La Luz, San Juan (all in operation), and San Miguel (not now worked).

The San Juan is the oldest mine in this district, having been originally worked under Spanish rule in Mexico. Years ago work was suspended on account of water. The company now owning (Americans) is pushing a tunnel to completion, commenced by the Spaniards, to drain the mine.

The Sierra del Carmen district.—This district contains milling ores. The principal mines are the Fronteriza and Quartzo Grande.

The Fronteriza is owned by citizens of the United States, with office of company at San Antonio, Tex. This company has a fully equipped mill and is producing silver bullion. The Gloria, Mercado, and Real Viejo ranges have a small product.

Monclova district.—Some silver-lead ores occur in the mountains around Monclova, and very large bodies of iron ore (hematite) are also found. But little work has been done, although the iron is said to be of good quality.

Cuatro Cienegas district.—This district embraces the Purissima and San Marcos ranges. The ores are silver-lead carbonates. In these ranges only two mines of any value are now being worked, viz, La Reforma and San Marcos. The ores from this district were formerly shipped to the United States to be smelted, but now are smelted at Monterey, where a large smelting plant has just been completed.

In the Cotrero de la Mula some thirty mines have been denounced, but so far only one is giving good results (siver-lead carbonates).

At Condela are ores of copper carrying silver and traces of gold, none being worked at present.

Viesca district.—No mines are now worked, but coal, copper, and asbestos are found. The asbestos fiber is said to be very perfect and long, and the surface indications are promising of value.

Sierra Mojada district.—This is the principal mining district of Coahuila and the largest district in the Republic for lead ores, and it has been well compared to Leadville, Colo. Enormous bodies of silver-lead carbonates have been opened up, and the output from this apparently limitless supply is only limited by freighting possibilities in the way of ore wagons to haul the ore to Escalon station, on the Mexican Central Railway, 90 miles from the mines. These mines were only discovered in 1879, and have been very successfully worked up to this time. The scarcity of water was the greatest drawback, but this has now been overcome by sinking wells.

American capital is very largely invested in the mines of the Sierra Mojada district. A railroad is now about completed to this famous district, and the output will now, of course, be largely increased. Mining has been greatly stimulated in Coahuila by the erection of large smelters at Monterey.

With the imposition of restriction to the free exportation of silver-lead ores to the United States in 1889 mining languished in Coahuila, as the United States was the chief market for its lead ores; but the erecting of smelters in Mexico and the creation of a home market for ores has again caused a resumption of mining operations.

Salt.—At Viesca, 5 miles from Hornos station on the Mexican International Railway, is a large salt lake covering an area of over 2 square miles. Salt is made by solar evaporation in a crude way. The supply is believed to be inexhaustible. In the central portion of Coahuila, along the line of the Mexican International Railway from Paila to Torreon, occurs a lime rock that yields, upon burning, a lime possessing remarkable hydraulic properties; mortar made from it rapidly sets and becomes harder than ordinary building stone.

Coal.—Until a few years ago the Republic of Mexico had been regarded as a region barren in coal measures of commercial value. The region of country bordering on the Rio Grande from above Eagle Pass, Tex., to below Laredo, Tex., and extending westerly and southerly over 100 miles in the State of Coahuila, is underlaid by coal measures of the cretaceous period. The extent of the coal areas of Coahuila is not yet definitely determined, but it is known to be large, and extensive work of development at two points over 100 miles apart strongly evidences the continuity of these coal measures.

Fuente coal.—At Fuente coal croppings occur along the bluff of the river bank where much erosion has worn away the rock formation. A company of capitalists from the city of Mexico has purchased 20,000 acres of land. A series of trial shafts were first sunk at intervals over this large acreage and proved the existence of underlying beds of coal. From the river escarpment the coal beds dip, at a very flat angle, northeasterly and, judging from the many trial shafts, are of uniform thickness and quality. This coal mine has been systematically opened up to meet a large coal output. An adit level has been sunk and galleries run over 500 feet, opening up two coal seams—one 5 feet 6 inches wide or thick above, then a band of valuable fire clay, and a lower coal seam 2 feet 6 inches thick. The quality of Fuente coal is that of a high-grade bituminous coking coal.

The Fuente coal mines should easily yield, with present developments, 100 tons per day, and this output can be rapidly augmented. Coke ovens are projected, and the owners of this property have received a subsidized concession from the Federal Government to build a standard-gauge railroad from Fuente, via Monclova, to Monterey, and thence to the city of Mexico.

Sabinas coal.—Near Sabinas station on the Mexican International Railway, 73 miles from Piedras Negras, are located the extensive coal mines of the Coahuila Coal Company and the Alamo Coal Company, representing a large investment of American capital. These companies jointly own 51 square leagues of coal lands, or about 220,646 English acres. This immense area is traversed by the track of the Mexican International Railway. Explorations by prospecting shafts and the diamond drill conclusively demonstrate that two, and perhaps three, coal horizons underlie this territory.

A standard-gauge railroad 13 miles in length unites the coal mines with the Mexican International Railway system.

At the mines are offices, storehouses, miners' quarters, mining machinery, and all appliances for mining and shipping a large monthly tonnage.

In 1890 there was mined 100,000 tons of coal and 4,000 tons of coke produced. There are twenty coke ovens now in operation. The coal is used on the Mexican International, shipped to the city of Mexico, and also exported to the United States for use on the Southern Pacific Railroad.

In 1889–'90 (fiscal year ended January 30, 1890) there were exported to the United States at this port 44,996 tons (2,240 pounds) of Sabinas coal, valued at $161,117.55 in United States gold.

The argillaceous ironstone of the Sabinas region, the mountains of iron ore (magnetic and hematite) at Monclova, and the limestone found all over the country, in connection with Sabinas coal and coke, comprise all the material requisites for manufacturing iron. The development of iron manufactories that are producing pig-iron from iron ores and the thousand attendant industries will be of incalculable benefit to Mexico, as Mexico now buys all her iron and iron manufactures.

EUGENE O. FECHET,
Consul.

UNITED STATES CONSULATE,
Piedras Negras, April 11, 1891.

THE HANNAFORD ELECTRIC LIGHTHOUSE.

REPORT BY CONSUL CONNOLLY, OF AUCKLAND.

Referring to Department instructions dated March 3, I have to report that Mr. Hannaford, the inventor of the Hannaford electric lighthouse, died shortly after I sent in my former report. I have experienced considerable difficulty in learning the whereabouts of his widow, she having moved away immediately after her husband's death; hence the delay.

It appears Mr. Hannaford had not patented his invention at the time of his death, but would have done so were he possessed of the means necessary to defray the expense. It also appears, owing to the death of the inventor, that some minor details remain unperfected, among which may be mentioned the water wheel intended to be operated by the rise and fall of the tide for the purpose of generating electricity. I am informed he had practically abandoned this feature of his invention in favor of a kerosene engine, which he deemed to be more reliable. His widow exhibited the working model, but there were none of the mechanical appliances attached except the bell and windmill; the former sounds an alarm at each revolution of the windmill. In good clear weather this bell can be detached or thrown out of gear, and there will be no occasion to use it except on very dark nights or during the prevalence of heavy fogs. Should the other portions of the mechanism prove as satisfactory as the windmill and bell, there can be little doubt as to its practicability. The wooden model shown me appears to be quite simple and easily erected. The iron plates are fastened to an iron framework by a system of threaded bolts and nuts. There is a strong iron pillar reaching from the floor to the dome of the tower. Around this iron center post a spiral staircase is built, by which one is enabled to ascend the dome. The interior of the tower shows a number of shelves. On these shelves the electric fluid storing jars are to rest, but the jars are not in position, nor have I been able to see anything that would indicate the kind or character of storing appliances to be used. The windmill seems ungainly, owing to its construction. I believe the ordinary circular wheel would be productive of better results than the kind shown in the photograph I sent with my report of the Hannaford light.* But it is contended that the inventor's idea was that mariners could observe the motion of his windmill at a much greater distance than any other kind of moving object, owing to the great length and size of the arms. There is, no doubt, considerable merit in this contention. Referring to the water wheel, I am inclined to believe it was only an ill-defined idea of the inventor's. I am forced to this conclusion from the fact that I have been unable to observe any reference to or model of this wheel among his drawings. I presume, however, such a power could be utilized for the purpose referred to, provided it could be placed where a very strong current ran, otherwise it seems impracticable. It would be difficult to build a wheel or machine sufficiently sensitive to the rise and fall of tide in mid ocean to produce the necessary power.

If found desirable, the base of the tower could be used as a residence for the light-keepers.

The widow of the inventor is in possession of complete detail drawings made by a prominent engineer in Auckland, but would not allow an examination, being afraid that I would take advantage of her carelessness, as she expressed it. She is anxious, however, to dispose of the model and drawings for a nominal sum. She expressly requested me to state she would sell all right, title, and interest for the sum of $3,000. I can not say anything with reference to the practicability of the electrical appliances proposed, as I have not been able to see the drawings; even if I had, not being an electrician, my opinion might be misleading.

The engineer who made the detail drawings is not in Auckland at present. I intend as soon as he returns to see him and endeavor to obtain full information as to the details. I may not be successful in this undertaking, as Mrs. Hannaford is anxious to dispose of the invention, but I shall at least make the effort. I may say in conclusion that the iron tower, windmill, and bell appear to be feasible, cheap, and easily erected. Should the electrical feature prove satisfactory, success is almost certain.

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*See CONSULAR REPORTS, No. 121.

Since writing the foregoing statement I have written to the gentleman who made the drawings for Mr. Hannaford, requesting full particulars, to which he replied that he would be pleased when he returned to Auckland, to supply me with all the information in his possession as to details, also the inventor's ideas upon various matters in connection with his proposed lighthouse hitherto unexplained. I can not say at present when this gentleman will be able to furnish me with the necessary information. It may be a month or more, but I shall forward it as soon as received.

JNO. D. CONNOLLY,
Consul.

UNITED STATES CONSULATE,
Auckland, June 14, 1891.

BIRMINGHAM PEARL-BUTTON MAKERS.

REPORT BY CONSUL JARRETT.

I have the honor to forward the following article which appeared in the Daily Gazette of this city of July 4 last:

THE BIRMINGHAM PEARL-BUTTON TRADE AND THE M'KINLEY TARIFF.

Mr. J. Hayward, shipping agent, informs us that yesterday morning a number of Birmingham pearl-button makers, under arrangements made by him, left the city for the United States. The cause of this emigration can be traced directly to the operation of the McKinley tariff, which very considerably increased the duty on pearl buttons. Prior to that date Birmingham buttons were exported largely to America, and the effect of the new tariff was at once to completely debar makers here sending this class of goods out. Consequently, hundreds of pearl-button makers were immediately thrown out of employment and have remained so ever since. Finding that the duty levied was such as to be absolutely prohibitive, attention was called in America to the necessity of manufacturing for themselves. This they commenced to do at once. But, practical and experienced workmen being scarce, it was soon apparent that the out-of-work pearl cutters, turners, and finishers in Birmingham would obtain immediate and remunerative employment in America. Consequently, small bodies of these men have been crossing to the United States from time to time during the past 8 months, and their favorable reports have induced a very large number of their fellow-workmen to join them. The party left Birmingham this morning, will embark by the White Star liner Majestic, which will land them at New York, and they will then proceed to Newark, N. J., where numerous friends will be ready to welcome them. Special arrangements for the comfort and convenience of the party have been made under Mr. Hayward's superintendence, and arrangements have been made for other parties to follow shortly.

The following extract is from the Butte, Montana, Semi-Weekly Inter-Mountain, dated Wednesday, June 3, 1891:

"There is great activity in the pearl-button industry in Newark, N. J. Old factories which were closed for some years are now in full operation, and new factories have started up.

All of them have more orders than they can conveniently fill. Wages have been advanced from 40 to 90 per cent., and workmen who formerly earned $7 a week, when they could get a week's work, now earn from $16.50 to $23 per week. Several years ago there were about twenty-three factories in Newark making pearl buttons alone. The change in the tariff on pearl buttons at that time had a most disastrous effect on the industry. Nearly all the factories were closed, and all the work that the few had to do was to fill in such small orders as could not be attended to by the importers. Some work was also done for jewelers on pearl ornaments. In 7 months since the McKinley bill went into operation the trade is almost restored. That bill provides the rate of protection so long asked for by the button-makers, and its effect is almost magical."

The significance of this article is fully borne out by a reference to the statement of declared exports for the quarter just ended. It will be observed that the value of buttons is but $3,378.93, while for the corresponding quarter last year (1890) the value of buttons declared at this consulate was $63,414.07.

The value of shells declared for the quarter just ended is $21,013.52, and for the corresponding quarter of 1890 it was $2,401.09, thus clearly demonstrating the removal of the industry of manufacturing buttons to the United States. There are other important changes with which I will deal more fully in my annual statement at the end of this quarter.

JOHN JARRETT,
Consul.

UNITED STATES CONSULATE,
Birmingham, July 8, 1891.

THE WAYS OF TRADE IN BRAZIL.

REPORT BY MINISTER CONGER, OF RIO DE JANEIRO.

I have the honor to report that during my brief sojourn here I have given the matter of trade relations with this country such careful consideration as the limited time and opportunities have made possible, and I am convinced that the successful reciprocity negotiations have opened the doors of Brazilian trade to wonderful opportunities for our people if they will only properly and intelligently take advantage of them.

Diplomacy and legislation have done very much for them. They must now do something for themselves, and it must not be done blindly. The market is here, but it is fixed and controlled by habits which can not be easily changed nor disregarded. The successful Europeans have always observed these trade customs. They make such goods as this trade demands; they manufacture in such style, quality, and quantity as this people desire; they pack them to suit the convenience or tastes of their customers, sell upon such terms as they demand, and adopt the methods of exchange and payment required.

Our people can secure the trade which reciprocity offers them in no other way; but, once secured, acquaintance made, and business and confidential relations established, our better methods may undoubtedly be introduced with mutual benefit. This will cost our people some time, patience, and expense, but the returns will be sure, ample, and not long delayed.

The flour trade is already well understood and established, and now, with free entry, needs only to be pushed in order that our mills may supply the trade which at present is largely controlled by those in Trieste.

Bacon and hams are in great demand here, and, while we can and do make as good as any in the world, yet little of ours is seen here, except it has crossed the Atlantic and been properly packed for an equatorial voyage and for this climate. They can and should be properly cured and packed at home and come direct. The same may be said of butter, cheese, meal, and fish.

It is not uncommon to see American butter and bacon in this market which have been shipped to Europe and there packed as our people might and should have done in the first place, and then reshipped and sold here with the necessary cost of second packing and a useless transatlantic voyage added to the price.

The people of Brazil insist upon cotton goods of a particular weight, width, quality, and color, and they must be folded and packed exactly as they desire, matters of little import or expense to our people, yet absolutely necessary to secure the trade. Wall paper, which is much used here, pays customs duties by weight, and so must be the thinnest possible. Carriages, harness, saddles, furniture, tools, implements, machinery, and manufactures of all kinds, must be of peculiar character and style; but, if of satisfactory kind, none are more popular than American. American locomotives are almost universally used, and American axes command the highest price. So popular, indeed, are the products of our skill and labor that many European manufacturers mark their goods with American brands in order to facilitate their sales.

Nearly all customs duties here are fixed by gross weight; the rough boards, hoops, and nails of which the packing boxes are made pay the same duty per pound as the delicate or valuable merchandise inside. The English and other Europeans early learned this, and now display exceeding cleverness in fashioning light, cheap, and durable coverings for their goods. Our people must do likewise.

A knowledge and adoption of the system of credits in vogue here is also indispensable. The merchants here sell on long time, and they must buy in the same way; but they are willing and accustomed to pay liberal interest on their accounts. The reasonable coöperation of our exporters and bankers surely can and should arrange for this with mutual profit.

The very complete statistics of Brazilian commerce, both export and import, already furnished by the CONSULAR REPORTS are sufficient to warrant a careful and close investigation by all of our people who desire to engage in or extend a profitable foreign trade.

I have only given hints. The investigation must be made by those who are willing to make personal profit from opportunities furnished them by legislation and diplomatic action and so bring about general public good.

Several instances of unprofitable and disastrous experience with American products in this market have come to my knowledge, but the failure in every case could be traced to the ignorance or carelessness of our people in the matter of either manufacturing, packing, or shipping.

I would therefore very respectfully suggest that some general note of warning be given, to the end that our people may not rush in here simply to meet loss and disappointment, but, instead, to secure profit and permanently prosperous trade.

E. H. CONGER,
Minister.

UNITED STATES LEGATION,
Rio de Janeiro, February 27, 1891.

RECIPROCITY WITH SAN DOMINGO.

PROCLAMATION BY THE PRESIDENT.

Whereas, pursuant to section 3 of the act of Congress approved October 1, 1890, entitled "An act to reduce the revenue and equalize duties on imports, and for other purposes," the Secretary of State of the United States of America communicated to the Government of the Dominican Republic the action of the Congress of the United States of America, with a view to secure reciprocal trade, in declaring the articles enumerated in said section 3, to wit, sugars, molasses, coffee, and hides, to be exempt from duty upon their importation into the United States of America;

And whereas the envoy extraordinary and minister plenipotentiary of the Dominican Republic at Washington has communicated to the special plenipotentiary of the United States the fact that, in reciprocity and compensation for the admission into the United States of America free of all duty of the articles enumerated in section 3 of said act, the Government of the Dominican Republic will, by due legal enactment, admit, from and after September 1, 1891, into all the established ports of entry of the Dominican Republic, the articles or merchandise named in the following schedules, on the terms stated therein, provided that the same be the product or manufacture of the United States and proceed directly from the ports of said States:

SCHEDULE A.

Articles to be admitted free of duty into the Dominican Republic:

1. Animals, live.
2. Meats of all kinds, salted or in brine, but not smoked.
3. Corn or maize, corn meal and starch.
4. Oats, barley, rye and buckwheat, and flour of these cereals.
5. Hay, bran and straw for forage.
6. Trees, plants, vines and seeds and grains of all kinds for propagation.
7. Cotton-seed oil and meal cake of same.
8. Tallow in cake or melted and oil for machinery, subject to examination and proof respecting the use of said oil.

9. Resin, tar, pitch and turpentine.

10. Manures, natural and artificial.

11. Coal, mineral.

12. Mineral waters, natural and artificial

13. Ice.

14. Machines, including steam-engines, and those of all other kinds, and parts of the same, implements and tools for agricultural, mining, manufacturing, industrial and scientific purposes, including carts, wagons, handcarts and wheelbarrows, and parts of the same.

15. Material for the construction and equipment of railways.

16. Iron, cast and wrought, and steel, in pigs, bars, rods, plates, beams, rafters and other similar articles for the construction of buildings, and in wire, nails, screws and pipes.

17. Zinc, galvanized and corrugated iron, tin and lead in sheets, asbestos, tar paper, tiles, slate and other material for roofing.

18. Copper in bars, plates, nails and screws.

19. Copper and lead pipe.

20. Bricks, fire bricks, cement, lime, artificial stone, paving tiles, marble and other stones in rough, dressed or polished, and other earthy materials used in building.

21. Windmills.

22. Wire, plain or barbed, for fences, with hooks, staples, nails, and similar articles used in the construction of fences.

23. Telegraph wire and telegraphic, telephonic and electrical apparatus of all kinds for communication and illumination.

24. Wood and lumber of all kinds for building, in logs or pieces, beams, rafters, planks, boards, shingles, flooring, joists, wooden houses, mounted or unmounted, and accessory parts of buildings.

25. Cooperage of all kinds, including staves, headings and hoops, barrels and boxes, mounted or unmounted.

26. Materials for shipbuilding.

27. Boats and lighters.

28. School furniture, blackboards, and other articles exclusively for the use of schools.

29. Books, bound or unbound, pamphlets, newspapers and printed matter, and paper for printing newspapers.

30. Printers' inks of all colors, type, leads and all accessories for printing.

31. Sacks, empty, for packing sugar.

32. Gold and silver coin and bullion.

SCHEDULE B.

Articles to be admitted into the Dominican Republic at a reduction of duty of 25 per centum:

33. Meats not included in Schedule A and meat products of all kinds, except lard.

34. Butter, cheese, and condensed or canned milk.

35. Fish and shellfish, salted, dried, smoked, pickled or preserved in cans.

36. Fruits and vegetables, fresh, canned, dried, pickled or preserved.

37. Manufactures of iron and steel, single or mixed, not included in Schedule A.

38. Cotton, manufactured, spun or twisted, and in fabrics of all kinds, woven or knit, and the same fabrics mixed with other vegetable or animal fibers in which cotton is the equal or greater component part.

39. Boots and shoes in whole or in part of leather or skins.

40. Paper for writing, in envelopes, ruled or blank books, wall paper, paper for wrapping and packing, for cigarettes, in cardboard, boxes and bags, sandpaper and pasteboard.

41. Tin plate and tinware for arts, industries and domestic uses.

42. Cordage, rope and twine of all kinds.

43. Manufactures of wood of all kinds not embraced in Schedule A, including wooden ware, implements for household use, and furniture in whole or in part of wood.

And that the Government of the Dominican Republic has further provided that the laws and regulations, adopted to protect its revenue and prevent fraud in the declarations and proof that the articles named in the foregoing schedules are the product or manufacture of the United States of America, shall place no undue restrictions on the importer, nor impose any additional charges or fees therefor on the articles imported.

And whereas the special plenipotentiary of the United States has, by my direction, given assurance to the envoy extraordinary and minister plenipotentiary of the Dominican Republic at Washington that this action of the Government of the Dominican Republic, in granting exemption of duties to the products and manufactures of the United States of America on their importation into the Dominican Republic, is accepted as a due reciprocity for the action of Congress as set forth in section 3 of said act:

Now, therefore, be it known that I, Benjamin Harrison, President of the United States of America, have caused the above-stated modifications of the tariff laws of the Dominican Republic to be made public for the information of the citizens of the United States of America.

In testimony whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington, this first day of August, one thousand eight hundred and ninety-one, and of the independence of the United States of America the one hundredth and sixteenth.

BENJ. HARRISON,

By the President:

WILLIAM F. WHARTON,

Acting Secretary of State.

DIRECTIONS FOR BINDING CONSULAR REPORTS.

The regular monthly issues of the Consular Reports, beginning with No. 1 (October, 1880) and ending with No. 127 (April, 1891), making thirty-five volumes, should be bound as follows:

Volume.	Months and year.	Numbers contained in volumes.
1	October and November, 1880	1, 2
2	January, February, March, April, May, and June, 1881	3, 4, 5, 6, 7, 8
3	July, August, and September, 1881	9, 10, 11
4	October, November, and December, 1881	12, 13, 14
5	January, February, March, and April, 1882	15, 16, 17, 18
6	May, June, July, and August, 1882	19, 20, 21, 22
7	September and October, 1882	23, 24, 24½
8	November and December, 1882	25, 25½, 26, 26½
9	January, February, March, and April, 1883	27, 28, 29, 30
10	July, August, September, and October, 1883	31, 32, 33, 34
11	November and December, 1883, January and February, 1884	35, 36, 37, 38
12	March, April, and May, 1884	39, 40, 41, 41½
13	June, July, and August, 1884	42, 43, 44
14	September, October, November, and December, 1884	45, 46, 47, 48
15	January, February, March, and April, 1885	49, 50, 51, 52
16	June (53 and 53½), July, August, and September, 1885	53, 53½, 54, 55, 56
17	October, November, and December, 1885	57, 58, 59
18	January, February, and March, 1886	60, 61, 62
19	April, May, June, July, August, and September, 1886	63, 64, 65, 66, 67, 68
20	September, October (68½, 69, and 70), November, and December, 1886.	68½, 69, 70, 71, 72
21	January (73 and 73½), February, and March, 1887	73, 73½, 74, 75
22	April (76 and 77), May, and June (79 and 80), 1887	76, 77, 78, 79, 80
23	July, August, and September (83 and 84), 1887	81, 82, 83, 84
24	October, November, and December, 1887	85, 86, 87
25	January, February, and March (90 and 91), 1888	88, 89, 90, 91
26	April, May, and June, 1888	92, 93, 94
27	July, August, and September, 1888	95, 96, 97
28	October, November, and December, 1888	98, 99, 100
29	January, February, March, and April, 1889	101, 102, 103, 104
30	May, July (106 and 106½), and August (107 and 107½), 1889	105, 106, 106½, 107, 107½
31	September, October, November, and December, 1889	108, 109, 110, 111
32	January, February, March, and April, 1890	112, 113, 114, 115
33	May, June, July, and August, 1890	116, 117, 118, 119
34	September, October, November, and December, 1890	120, 121, 122, 123
35	January, February, March, and April, 1891	124, 125, 126, 127

Each number of Consular Reports contains an index for immediate reference. The number index and number contents should be thrown out when binding in volumes. Beginning with volume 17 (Nos. 57, 58, and 59), there are volume indexes, which should be bound with their respective volumes. Up to volume 17 there were no volume indexes issued. Two general indexes have been prepared and issued, viz: First, a general index embracing No. 1 (October, 1880) to No. 59 (December, 1885)—vols. 1 to 17, inclusive; second, a general index, embracing Nos. 60 to 111 (vols. 18 to 31)—January, 1886, to December, 1889.

The following is an illustration of the manner in which the backs of the volumes should be legended:

Consular Reports.	Consular Reports.	Consular Reports.
—	—	—
1880.	1881.	1891.
Vol. 1.	Vol. 2.	Vol. 35.
Numbers 1 & 2.	Numbers 3, 4, 5, 6, 7, 8.	Numbers 124, 125, 126, 127.
Department of State.	Department of State.	Department of State.
Washington.	Washington.	Washington.

INDEX.

[VOL. XXXVI (NOS. 128, 129, 130, AND 131), CONSULAR REPORTS.]

A.

Page.
Abbott, John T. (minister, Colombia), industrial possibilities of Colombia 330–338
Adams, Lyell T. (consul, Horgen), Swiss exports to the United States 58
Africa, South, American sheep in 592
Agricultural credit conditions in Austria 467
  Exhibition, Dublin National 237
  wages in Germany 161
Agriculture in Colombia 335
  San Pedro Sula, Honduras 632
American bacon and hams, Irish vs 256
  -Brazilian trade 600
  -Chilean trade 261
  dried apples in Germany 294
  flour trade in Glasgow 69
  laborers in Colon 288
  oleo oil in the Netherlands 289, 293
  products in Italy (see Italy, American products in) 129
  trade at Puerto Cabello 28
    in Florence (correction) 408
    Senegal 57
Andrade, Conselheiro Paes de, land titles in Para 617
Apples, American dried, in Germany 294
Argentine financial situation 243
Argentine Republic, failure of the Platense Flotilla Company 612
  foreign gold in the 19
  land laws of the 344
Army and navy of Austria-Hungary 580
Art, national aid to 349
Atwell, W. P. (commercial agent, Roubaix), labor manifestation in the district of Roubaix 341–343
Australasia, Hannaford electric light-house 655
  sheep and wool in 620
Australasian wheat harvest, 1890–'91 120
  wool season of 1890–'91 104
Austria, agricultural credit conditions in 467
  Oriental trade of 214

Page.

Austria-Hungary, commerce and industries of ... 505–581
  (Government and people, 505—resources and trade, 508—United States consular districts: Prague and Reichenberg, 508; Buda-Pesth and Trieste, 509; and Vienna, 510—Austrian agricultural statistics, 510–520—barley and malt, 520—hops, 521—oilseeds, 523—Hungarian agricultural statistics, 524—Austrian wine and American vines, 524—primogeniture farmers, 526—crops of 1890, 527—world's wheat crop, 529—wheat consumption of Europe, 531—imports and exports, 531–535, 538–539—beet sugar, 535—chemical industry, 537—Austrian industries, 539—Hungarian industries, 540—Vienna industries, 541—mines and furnaces, 543–547—mine statistics of the world, 548—public debt, 549—budgets, 550–553—banks and banking, 553–557—currency, 557—railways, 559–565—mercantile marine, 565–569—river navigation, 569—postal, telegraph, and telephone statistics, 570—forestry, 572—labor and emigration, 573—exports to the United States, 576—army and navy, 580.)

B.

Bacon and hams, American vs. Irish ... 256
Bahamas, sponge trade of ... 411
Baker, E. L. (consul, Buenos Ayres), failure of the Platense Flotilla Company ... 612
  foreign gold in the Argentine Republic ... 19
  land laws of the Argentine Republic ... 344
Ballantine, H. (consul, Bombay), commerce of Bombay ... 153
  linseed and rice in India ... 29
Baltic and North Sea Canal ... 209
Bank of France ... 249
Banks in Honduras ... 80
  of Austria-Hungary ... 553
Barcelona in 1890, trade and industries ... 157
Beer tax in Denmark ... 318
Belgian miners' strike ... 409
Belgium, woolen-goods trade of ... 472
Berlin insane asylum ... 595
  poor commission ... 448
  sanitary system of ... 265
  sewerage irrigation system ... 462
  street-cleaning in ... 116
  street-lighting in ... 47
  waterworks of ... 202
Binding consular reports, directions for ... 663
Birmingham pearl-button makers ... 657
Boat, a new electric ... 287
Bombay, commerce of ... 153
Bourn, Augustus O. (consul-general, Rome), American products in Italy ... 129
Bowen, Herbert W. (consul, Barcelona), Barcelona in 1890 ... 157
Bradford, John S. (consul, Antigua), trade and industries of the Leeward Islands ... 616
Brazil, constitution of the Republic of the United States of ... 1
  English-speaking emigrants in ... 594
  land titles in the State of Para ... 617
  port of Torres ... 119
  rice in ... 392
  ways of trade in ... 658
Brazilian-American trade ... 600
Brown, L. W. (consul, Glasgow), American flour trade in Glasgow ... 69

Page.
Bruce, Wallace (consul, Leith), sea fisheries of Great Britain.......... 447
Budgets of Austria-Hungary.......... 553
Burgess, William (consul, Tunstall), cotton-tie manufacture in England.......... 86
Butter trade of Denmark.......... 415
Byers, S. H. M. (consul, St. Gall), steam-made embroideries.......... 606

C.

Campbell, John P. (consul, Tamatave), rice in Madagascar.......... 33
Canal, North Sea and Baltic.......... 209
tolls, Canadian (discrimination against American ports).......... 420
Carroll, Philip (consul, Palermo), American products in Palermo.......... 151
Catlin, George L. (consul, Zurich), Swiss factory operatives.......... 446
Central America:
Guatemala, trade and commerce of.......... 353-386
Honduras, agriculture in San Pedro Sula.......... 632
banks in.......... 80
public improvements in.......... 82
Nicaragua, coffee industry of.......... 590
Cereals, Russian, export of.......... 73
Chambers, James C. (consul, Batoum), petroleum trade of Russia.......... 61
Chilean-American trade.......... 261
China, commerce in, in 1890.......... 83
improvements in tea-growing in.......... 32
sheep and wool in.......... 201
silver money in, native essay on.......... 43
Chlorosis in plants and trees.......... 589
Coahuila industries and trade of.......... 584
mineral resources of.......... 652
Codfish-curing in France.......... 235
Coffee industry of Nicaragua.......... 590
Colombia, industrial possibilities of.......... 330-338
(Physical features, 330—telegraphs, merchant marine, 331—departments of Antioquia, Bolivar, Boyacá, Cauca, Cundinamarca, Magdalena, Panama, Santander, and Tolima, 331-333—manufactures, 333—intercontinental railroad, mule trains, 334—agriculture, 335—Colombia at the Chicago exposition, imports from the United States, 336—tea culture, mines, 337—sugar production, 338.)
Colon, American laborers in.......... 288
Conger, E. H. (minister, Rio de Janeiro), constitution of the Republic of the United States of Brazil.......... 1
English-speaking emigrants in Brazil.......... 594
ways of trade in Brazil.......... 658
Conglomerate fuel, manufacture of, in France.......... 449
Connolly, John D. (consul, Auckland), Hannaford electric light-house.......... 655
Copenhagen, a free port at.......... 254
Cotton-growing in Russia.......... 425
Cotton-tie manufacture in England.......... 86
Crawford, J. M. (consul-general, St. Petersburg), cotton-growing in Russia.......... 425
depreciation of land in Russia.......... 85
export of Russian cereals.......... 73
foreign commerce of Russia in 1890.......... 416
Credit conditions, agricultural, in Austria.......... 467
Crop insurance companies of Russia.......... 207

Page
Cuba, reciprocal trade with ... 481
Currency of Austria-Hungary, adjustment of ... 557

D.

Danforth, James R. (consul, Liege), the Belgian miners' strike ... 409
  woolen-goods trade of Belgium ... 472
Daniels, Byron G. (consul, Hull), the docks of Hull ... 23
Danish butter trade ... 415
Denby, Charles (minister, Peking), commerce in China in 1890 ... 83
  improvements in tea-growing in China ... 32
Denmark, beer tax in ... 318
  duty reductions in ... 306
  milk from tuberculous cows ... 159
  the poor laws of ... 253
Depopulation of France ... 430
Diller, Isaac R. (consul, Florence), American products in Florence ... 135
  trade, institutions, and industries of Florence ... 34
Directions for binding consular reports ... 663
Dockery, O. H. (consul-general, Rio de Janeiro), American-Brazilian trade ... 600
  rice in Brazil ... 392
Docks of Hull ... 23
Drayton, John (consul, Tuxpan), trade at Tuxpan ... 352
Dublin National Agricultural Exhibition ... 237
Duty reductions in Denmark ... 306

E.

Edwards, W. H. (consul-general, Berlin), Berlin insane asylum ... 595
  poor commission ... 448
  sewerage irrigation system ... 462
  street-cleaning ... 116
  German emigration in 1890 ... 128
  petroleum monopoly of Europe ... 647
  street-lighting in Berlin ... 47
Electric boat, a new ... 287
  light-house, Hannaford ... 655
Embroideries, steam-made ... 606
Emigrants in Brazil, English-speaking ... 594
Emigration and labor, Austro-Hungarian ... 573
  from Amsterdam to the United States ... 20
  German, in 1890 ... 128
England and Wales, population of ... 320
Estes, W. R. (consul, Kingston), fruits of Jamaica ... 321
Europe, harvest prospects of, 1891 ... 387
Exhibition, the Electro-Technical, at Frankfort ... 442
Exports from Switzerland to the United States ... 58
  German, to the United States ... 319
Exposition, Italian-American, in Genoa ... 625

F.

Factory operatives, Swiss ... 446
Fechet, Eugene O. (consul, Piedras Negras), American vs. European trade in Mexico ... 582
  industries and trade of Coahuila ... 584
  mineral resources of Coahuila ... 652

Page.

Fiber ware, American, in Mexico........ 242
Fisheries, sea, of Great Britain........ 447
Fletcher, James (consul, Genoa), American products in Genoa........ 136
  Italian-American exposition in Genoa........ 625
Florence, American trade in (correction)........ 408
  trade, institutions, and industries of........ 34
Food prices and wages in Havre........ 438
Forestry of Austria-Hungary........ 572
Fowler, John (consul, Ningpo), silver money in China, native essay on........ 43
France, Bank of........ 249
  codfish-curing in........ 235
  harvest prospects of, 1891........ 387
  manufacture of conglomerate fuel in........ 449
  silk industry of........ 307
  the depopulation of........ 430
  wine product of, 1890........ 338–341
Frankfort, the Electro-Technical Exhibition at........ 442
Freight system, the zone........ 303
Fruits of Jamaica........ 321

G.

German crisis in breadstuffs........ 581
  emigration in 1890........ 128
  exports to the United States........ 319
  mine products........ 317
  railway statistics........ 282
  trade, 20 years of........ 278
Germany, agricultural wages in........ 161
  American dried apples in........ 294
  foreign trade of (by countries)........ 393
  production of iron in........ 93
  street-cleaning in Berlin........ 116
  street-lighting in Berlin........ 47
  the grain question in........ 635
Gibraltar, affairs in........ 213
Glass and porcelain, soldering........ 272
Goldschmidt, Julius (consul-general, Vienna), commerce and industries of Austria-Hungary........ 505
Grant, F. D. (minister, Vienna), Trieste no longer a free port........ 646
Great Britain, sea fisheries of........ 447
Griffin, G. W. (consul, Sydney), Australasian wheat harvest, 1890–'91........ 120
  wool season of 1890–'91........ 104
Griffin, Walter T. (commercial agent, Limoges), harvest prospects in France and Europe........ 387
Guatemala, trade and commerce of........ 353–386
  (How to increase American trade, 353–362—from Livingston to Guatemala city, 362—from the United States to Guatemala city, 365—the labor question, 367—mining, 369—the Guatemala Central Railroad, 374—exports and imports, 379—revenue and expenditures, 381—port charges, 382—freight rates of the Central Railroad, 384—exports of coffee from Livingston, 386.)

H.

Page.

Hams and bacon, American vs. Irish 256
Hannaford electric light-house 655
Harvest prospects in France and Europe 387
Havre, food prices and wages in 438
Hawes, John B. (consul, Reichenberg), agricultural credit conditions in Austria 467
Heath, Charles (consul, Catania), American products in Catania 134
Hicks, John (minister, Lima), Peruvian petroleum 386
Hollis, George F. (consul, Cape Town), American sheep in South Africa 592
Honduras, agriculture in San Pedro Sula 632
    public improvements in 82
Hull, docks of 23

I.

Imports of Mexico in 1889 74
India, commerce of Bombay 153
    linseed and rice in 29
Industries and trade of Coahuila 584
Insane asylum, Berlin 595
Insurance companies, crop, of Russia 207
Irish vs. American bacon and hams 256
Iron production in Germany in 1889 93
Italian-American exposition in Genoa 625
Italy, American products in 129–153
    (All Italy, 129–134—Catania, 134, 135—Florence, 135, 136—Genoa, 136–139—Leghorn, 139–147—Messina, 147, 148—Milan, 149—Naples, 149–151—Palermo, 151—Turin, 151, 152—Venice, 152, 153.)
    trade, institutions, and industries of Florence 34

J.

Jamaica, fruits of 321
Japan Stream 276
Jarrett, John (consul, Birmingham), Birmingham pearl-button makers 657
Johnson, H. Abert (consul, Venice), American products in Venice 152
Jones, Wallace S. (consul, Messina), American products in Messina 147
Joslyn, Charles D. (consul, Windsor), trade and industries of Windsor, Ontario 433

K.

Kerbey, J. O. (consul, Para), land titles in the State of Para 617
Kimberly, Samuel (consul-general, Guatemala), trade and commerce of Guatemala ... 353–386
Knowles, Horace G. (consul, Bordeaux), French wine product of 1890 338–341
    the depopulation of France 430

L.

Labor and emigration, Austro-Hungarian 573
    manifestation in the district of Roubaix 341–343
Laborers, American, in Colon 288
Land depreciation in Russia 85
    laws of the Argentine Republic 344
    titles in Para 617
Laws, the poor, of Denmark 253
Lay, Richard G. (consul-general, Ottawa), Canadian canal tolls (discrimination against American ports) 420

Page.

- Leads in Australia 613
- Leeward Islands, trade and industries of 616
- Le Mescam, L. (vice-commercial agent, Nouméa), the nickel mines of New Caledonia 343
- Linseed and rice in India 29
- Loomis, Francis B. (consul, St. Etienne), national aid to art 349
- Looms, how to place 95

M.

- Madagascar, rice in 33
- Manitoba, trade and industries of 475
- Maracaibo, shipping at, in 1889 41
- Mason, Frank H. (consul-general, Frankfort), the Electro-Technical Exhibition at Frankfort 442
    - German crisis in breadstuffs 581
- Matamoros, trade of 273
- Matches and phosphorus in Spain 479
- McLain, Thomas J. (consul, Nassau), sponge trade of the Bahamas 411
- Mercantile marine of Austria-Hungary 565
- Mexican National Railroad 217
    - oranges for the United States 248
- Mexico, American fiber ware in 242
        - vs. European trade in 582
    - exports from 609
    - imports of, in 1889 74
    - industries and trade of Coahuila 584
    - mineral resources of Coahuila 652
    - Mormons in 60
    - trade at Nuevo Laredo 87
        - Tuxpan 352
- Milk from tuberculous cows 159
- Mine products, German 317
    - statistics of the world 548
- Mineral resources of Coahuila 652
- Mines, nickel, of New Caledonia 343
    - of San Nicolas, Tamaulipas 259
    - tin, in the Straits Settlements 388
- Mining of Coahuila 584
- Mormons in Mexico 60
- Murphy, George H. (consular clerk, Berlin), foreign trade of Germany 393

N.

- National aid to art 349
- Navy of Austria-Hungary 580
- Negley, Charles (consul, Rio Grande do Sul), port of Torres, improvement of 119
- Netherlands, American oleo oil in the 289, 293
    - emigration from Amsterdam to the United States 20
- Neuer, Charles (consular agent, Gera), how to place looms 95
- Newell, William (consul, Managua), coffee industry of Nicaragua 590
- Nicaragua, coffee industry of 590
- Nickel mines of New Caledonia 343
- North Sea and Baltic Canal 209
- Nuevo Laredo, trade at 87

O.

Page.

- Oil, American oleo, in the Netherlands 289, 293
- Oranges, Mexican, for the United States 248

P.

- Para, land titles in the State of 617
- Partello, D. J. (consul, Dusseldorf), iron production in Germany in 1889 93
- Pearl-button makers of Birmingham 657
- Pepper, G. W. (consul, Milan), American products in Milan 149
    - Peruvian petroleum 386
- Peterson, James J. (consul, Tegucigalpa), agriculture in San Pedro Sula 632
    - banks in Honduras 80
    - public improvements in Honduras 82
- Petroleum monopoly of Europe 647
    - Peruvian 386
    - trade of Russia 61
- Phosphorus and matches in Spain 479
- Platense Flotilla Company, Buenos Ayres, failure of 612
- Plumacher, E. H. (consul, Maracaibo), shipping at Maracaibo in 1889 41
- Population of England and Wales 320
- Porcelain and glass, soldering 272
- Port, a free, at Copenhagen 254
- Porto Rico, commerce of, in 1889 54
- Posts, telegraphs, and telephones of Austria-Hungary 570
- Public debt of Austria-Hungary 549

R.

- Railroad, Mexican National 217
- Railway statistics, German 282
- Railways of Austria-Hungary 559
- Reciprocity with San Domingo 660
    - Spain (Cuba and Porto Rico) 481
- Rice and linseed in India 29
    - in Brazil 392
    - Madagascar 33
- Rice, William T. (consul, Leghorn), American products in Leghorn 139
- Riley, William G. (consul, Puerto Cabello), American trade at Puerto Cabello 28
- Roubaix, labor manifestation in the district of 341
- Roumania, wages in 208
- Russia, cotton-growing in 425
    - crop insurance companies of 207
    - depreciation of land in 85
    - export of cereals from 73
    - foreign commerce of, in 1890 416
    - petroleum trade of 61
- Ryan, Thomas (minister, Mexico), imports of Mexico in 1889 74
    - Mexican exports 609
- Ryder, Henry B. (consul, Copenhagen), Danish butter trade 415
    - milk from tuberculous cows 159

S.

- Sampson, A. J. (consul, Paso del Norte), Mormons in Mexico 60
- San Domingo, reciprocity with (treaty) 660

Page.
Sanitary system of Berlin 265
San Nicolas, Tamaulipas, mines of 259
Schleier, T. M. (consul, Amsterdam), emigration from Amsterdam to the United States. 20
Senegal, American trade in 57
  tariff changes and trade in 16
Sheep, American, in South Africa 592
  and wool in Asiatic Turkey 97
    Australasia 620
    China 201
Shipbuilding trades of the United Kingdom 295
Silk industry of France 307
Silver money in China, native essay on 43
Smith, James H. (consular agent, Mayence), the grain question in Germany 635
    treatment of chlorosis in plants and trees. 589
Soldering glass and porcelain 272
South America:
  Argentine Republic, failure of the Platense Flotilla Company 612
    financial situation 243
    foreign gold in 19
    land laws of 344
  Brazil, American-Brazilian trade 600
    constitution of the Republic of the United States of 1
    English-speaking emigrants in 594
    land titles in the State of Para 617
    port of Torres 119
    rice in 392
    ways of trade in 658
  Chile, American-Chilean trade 261
  Colombia, American laborers in Colon 288
    industrial possibilities of 330–338
    sugar productions in 338
  Peru, petroleum in 386
  Venezuela, American trade at Puerto Cabello 28
    shipping at Maracaibo in 1889 41
Spain, an open road to trade with 390
  Barcelona in 1890 (trade and industries) 157
  phosphorus and matches in 479
  reciprocity with (treaty) 481
Sponge trade of the Bahamas 411
Stewart, L. R. (consul, San Juan), commerce of Porto Rico in 1889 54
Straits Settlements, tin-mining in 388
Street-cleaning, Berlin 116
Strickland, Peter (consul, Gorée-Dakar), American trade in Senegal 57
    tariff changes and trade in Senegal 16
Strike, the Belgian miners' 409
Sugar production in Colombia 338
Sutton, Warner P. (consul-general, Nuevo Laredo), trade at Nuevo Laredo 87
Sweeney, Z. T. (consul-general, Constantinople), sheep and wool in Asiatic Turkey... 97
Swiss factory operatives 446
Switzerland, exports from, to the United States 58

T.

Page.

Tariff changes and trade in Senegal.... 16
Tax, beer, in Denmark.... 318
Taylor, James W. (consul, Winnipeg), trade and industries of Manitoba.... 475
Tea-growing in China, improvements in.... 32
Tin-mining in the Straits Settlements.... 388
Touhay, St. L. A. (vice-consul, Turin), American products in Turin.... 151
Trade, American-Chilean.... 261
    German, 20 years of.... 278
    of Matamoros.... 273
    Oriental, of Austria.... 214
    ways of, in Brazil.... 658
Trades, shipbuilding, of the United Kingdom.... 295
Trieste no longer a free port.... 646
Tuberculous cows, milk from.... 159
Turkey in Asia, sheep and wool in.... 97
Turner, R. W. (consul, Cadiz), an open road to trade with Spain.... 390
    phosphorus and matches in Spain.... 479
Tuxpan, trade at.... 352
Twells, John Steele (consul, Naples), American products in Naples.... 149

U.

United Kingdom, shipbuilding trades of the.... 295
United States, German exports to the.... 319

V.

Venezuela, American trade at Puerto Cabello.... 28
    shipping at Maracaibo in 1889.... 41

W.

Wages, agricultural, in Germany.... 161
    and food prices in Havre.... 438
    in Roumania.... 208
Wales and England, population of.... 320
Wallace, George H. (consul-general, Melbourne), leads in Australia.... 613
Waterworks of Berlin.... 202
Wheat consumption of Europe.... 531
    harvest of Australasia, 1890–'91.... 120
    world's crop of.... 529
Wildman, Rounsevelle (consul, Singapore), tin-mining in the Straits Settlements.... 388
Williams, C. P. (consul, Rouen), manufacture of conglomerate fuel in France.... 449
Williams, Oscar F. (consul, Havre), wages and food prices in Havre.... 438
Windsor, Ontario, trade and industries of.... 433
Wine product, French, of 1890.... 338
Wool and sheep in Asiatic Turkey.... 97
    Australasia.... 620
    China.... 201
    season of 1890–'91, the Australasian.... 104
Woolen-goods trade of Belgium.... 472
Workmen's committee.... 300

Z.

Zone freight system.... 303

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